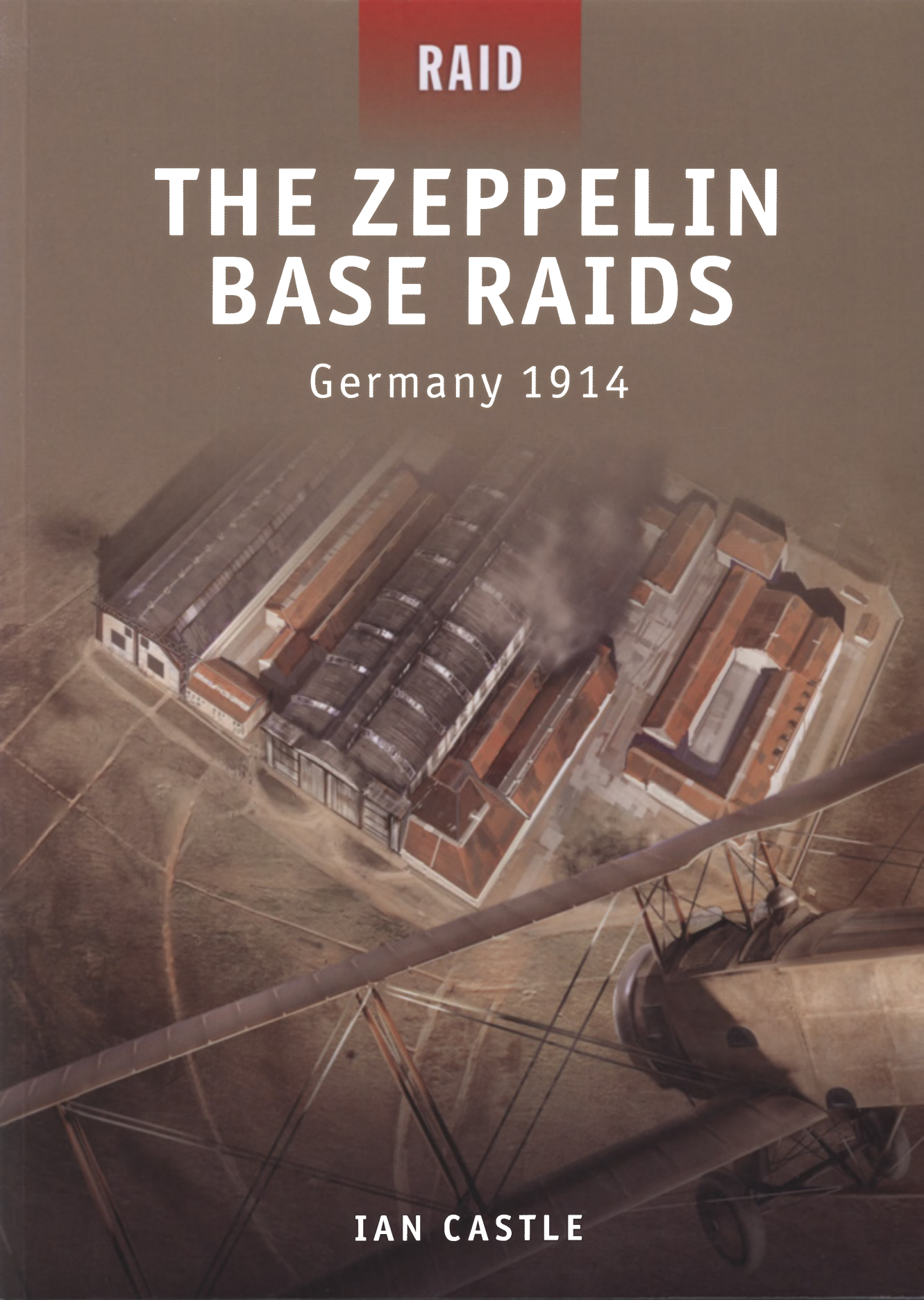
RAID

THE ZEPPELIN BASE RAIDS

Germany 1914



IAN CASTLE

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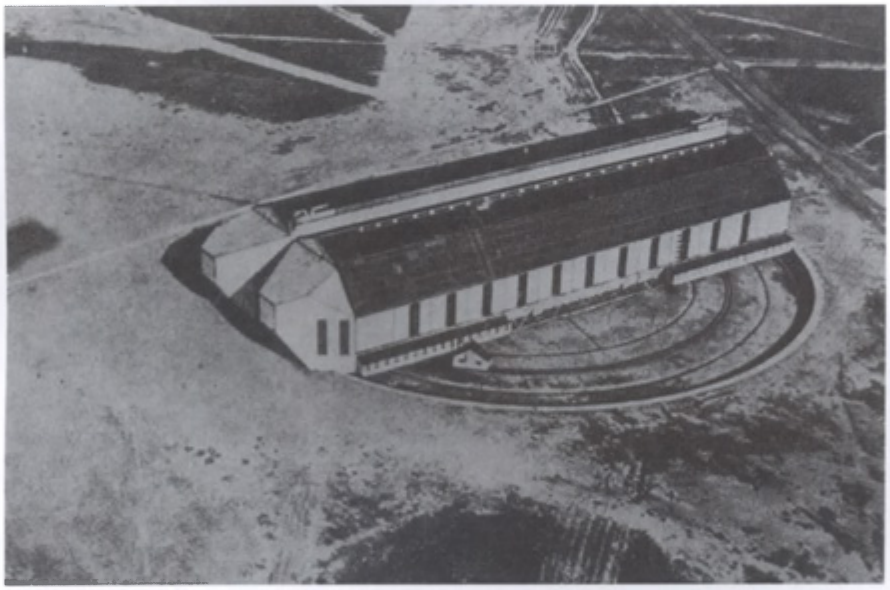
Germany 1914



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DEDICATION

For Nicola, who always supports my work – and then has to read the manuscript.

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INTRODUCTION

In 1914 the clouds of war were gathering over Europe. In the coming conflict, control of the skies was destined to play an important role for the first time. As the armies and navies of the belligerent nations prepared for the titanic struggle that lay ahead, their fledgling air forces found themselves about to step into the unknown.

Aviation was in its infancy. Only in December 1903, in the United States, had the Wright brothers taken the first tentative leap into the air when their flimsy-looking Wright Flyer achieved the first manned, controlled and powered flight by a heavier-than-air machine; it lasted a mere 12sec. In Britain, the first officially recognized flight did not take place until October 1908 when the American-born Samuel Cody flew his British Army Aeroplane No. 1 for 27sec. Ten months later, in July 1909, the French aviator Louis Blériot took another leap of faith and flew the first aeroplane across the English Channel. Just five years later, in August 1914, pilots of the Royal Flying Corps and Royal Naval Air Service would be making the return journey on their way to war.

In Germany, lighter-than-air flight – involving airships – attracted far more attention than in Britain. The leading exponent of this type of aviation was Count Ferdinand von Zeppelin. He flew his first airship in July 1900, but only after the successful launch of his third model in October 1906 did the fame of his airships begin to spread. In June 1909 the German Army purchased its first 'Zeppelin'. In 1912, the increasing reliability of Count Zeppelin's airships persuaded the Imperial Navy to purchase one too. Between 1909 and the summer of 1914 some 10,000 enthusiastic passengers went on pleasure flights on Zeppelin's commercial airships. The Zeppelin was elevated to the status of national icon: it seemed to embody the belief of the German people in their nation's technical superiority.

In Britain, concerns began to grow about the threat these massive airships might pose in a future war. In 1908 the government authorized the Admiralty to build an airship resembling a Zeppelin as a way of analysing capabilities and threat level. However, the project ended in disaster in September 1911 when the completed airship, Rigid Naval Airship No. 1 – known as *Mayfly* – broke in

two before even getting airborne. The threat of German airships sailing serenely over the British countryside, raining death and destruction on the defenceless population, still appeared to be a very real one.

The aerial defence of Britain

In 1911, the same year the *Mayfly* broke its back, the Balloon School of the Royal Engineers was reformed as the Air Battalion. The new unit was to encompass all aspects of aviation. There were two companies: No. 1 Company – Airships, and No. 2 Company – Aeroplanes. Also that year, four officers – including Lt C. R. Samson, Royal Navy, and Capt E. L. Gerrard of the Royal Marine Light Infantry – attended a flying course at Eastchurch on the Isle of Sheppey, the newly established home of the Royal Aero Club and of the Short Brothers aircraft factory. All four officers qualified as pilots and Eastchurch quickly became established as the centre of naval aeroplane training and a hub for aerial experimentation. In 1912 the Committee of Imperial Defence passed a recommendation for the creation of a single aeronautical service – the Royal Flying Corps – with a military wing, a naval wing and a central flying school. Yet right from the start the army and navy wings were not good bedfellows. And although trainee navy pilots attended the Central Flying School, after gaining their wings they returned to Eastchurch for further specific training more suitable for naval pilots. The military wing recognized its role as one of reconnaissance for any future expeditionary force; however, with coastal defence a priority, the naval wing saw the importance of a combat role. Although there was some co-operation between the two wings, they began to evolve independently.

Winston Churchill, the First Lord of the Admiralty – the political head of the Royal Navy – was a great supporter of pioneering and unconventional enterprises and as such embraced the promise offered by aviation. He created an Air Department within the Admiralty, headed by Capt Murray Sueter, to supervise the development of aviation. Churchill and Sueter together ensured that the naval wing received the financial support it needed to develop quickly. Charles Samson, one of the initial four naval pilots, was appointed commander of the naval station at Eastchurch. He encouraged Churchill himself to take flying lessons, which increased the First Sea Lord's awareness of the potential offensive advantages of aviation. However, the naval and army wings were continuing on their divergent courses. In early July 1914, on the eve of war, the two wings officially separated to become the Royal Flying Corps (RFC) and Royal Naval Air Service (RNAS).

Winston Churchill (1874–1965). Churchill was appointed First Lord of the Admiralty in 1911 and undertook the role with great enthusiasm. He explored all aspects of naval development and in his quest for information often bypassed senior officers to talk directly with junior officers and seamen. As one historian put it: 'In matters of technical advance the First Lord was always in the van, always supporting the pioneers, always sweeping aside the obstruction of the unimaginative.' Churchill saw just such a pioneering approach in the field of naval aviation, epitomized by the forward-thinking, 'can-do' attitude of men like Sueter and Samson.

Capt Murray Sueter (1872–1960). Sueter joined the navy as a cadet in 1886. Promoted to lieutenant in 1894, he specialized in torpedoes until 1902 when he began working with submarines. Two years later he moved to the Admiralty and in 1909 became head of a special section involved in building a rigid airship. The following year he became inspecting captain of airships. In 1912 he was appointed director of Churchill's newly created Admiralty Air Department.

Britain declared war on Germany on 4 August 1914, and the British Expeditionary Force (BEF) embarked for France five days later. By this time the RFC mustered five squadrons, although only four were actually equipped with aircraft. Tasked with supporting the BEF, all four squadrons were in France by mid-August. The RFC had maintained the right, as part of the British Army, to defend the homeland, but the departure for France had left just 20 or so serviceable RFC aircraft in Britain. At the outbreak of war the RNAS possessed 91 aeroplanes (52 of them seaplanes), of which probably about half were ready for immediate service. These aircraft were prepared, in conjunction with the fleet, to defend Britain's east coast from attack by air or sea.

Early in August, in line with this requirement, Samson received orders to move the Eastchurch (mobile) squadron to Skegness in Lincolnshire. From this base, the squadron began patrolling the North Sea coast. However, Churchill was well aware of the high level of efficiency and *esprit de corps* attained by Samson's squadron. On 23 August he told Sueter: 'The presence of Commander Samson with his mobile squadron is more necessary at Eastchurch than at Skegness.' He added that Major Gerrard, another of the original four naval pilots, 'cannot be left indefinitely at the Central Flying School. Work of a more responsible character must be found for the officer.' Two days later, with the squadron back at Eastchurch, Samson received an urgent summons to the Admiralty. There he received orders from Sueter to move his squadron to Ostend, on the Belgian coast, first thing the next morning, to commence operations with a brigade of Royal Marines. This was the news Samson had been hoping for. He telephoned Eastchurch immediately, instructing that all aeroplanes should be ready by dawn. Of his return journey Samson wrote:

> I am afraid we exceeded the speed limit on many occasions; arriving there about 2 a.m. we found everyone collected in the Mess playing poker, nobody was desirous of going to bed and all were keen as mustard on setting out to war as soon as daylight appeared.

The adventure begins

In the event, the departure of Samson and his men was held up for 24 hours. However, on 27 August all was ready. Samson collected the necessary crews and prepared nine aircraft, most of which he described as 'old veteran servants of the Crown'. The following aircraft made the journey:

No. 31 (Henri Farman 80hp biplane)
No. 33 (Sopwith 80hp biplane)
No. 39 (Blériot 80hp monoplane)
No. 42 (Short 80hp biplane; formerly a seaplane)
No. 47 (B.E.2c 70hp biplane)
No. 50 (B.E.2b 70hp biplane)
No. 153 (Bristol 80hp biplane)
No. 902 or No. 103 (Blériot 50hp monoplane)
No. 906 (Sopwith 80hp biplane)

In the absence of national markings on any aircraft at this early stage in the war, Samson ordered that 'each aircraft should fly a Union Jack lashed to one of its struts' to prevent becoming a target for 'friendly fire'. He also

Cdr Charles Samson (1883–1931). In 1911 Samson became one of the first four pilots in the Royal Navy. He was a true aviation pioneer. He made the first flight from the deck of a static ship (December 1911), followed by the first flight from a moving ship (May 1912), and with Short Brothers designed the first seaplane (March 1912). In 1913 he developed the idea of seaplanes having folding wings, became the first British pilot to fly at night without lights on his aircraft or on the landing ground, and developed formation flying, which delighted onlookers at the July 1914 Spithead Naval Review.

Part of Samson's Eastchurch squadron at Dunkirk. On the left is Samson's B.E.2b No. 50, and on the right the former Short seaplane No. 42, converted for land service. Directly behind No. 50 is one of the two 80hp Sopwiths. The airship is the British Astra-Torres, HMA No. 3.

instructed his crews to wear two bicycle tyres as lifebelts in case they came down in the sea.

Low cloud and thunderstorms posed a threat, but Samson confided that 'it would have taken something pretty bad to have stopped us that day'. With Samson leading, the aerial expedition crossed the French coast at Calais, then flew over Dunkirk and on to Ostend. Here, Samson selected the racecourse as the most suitable landing ground. As he descended Samson found bullets whistling past his aircraft. Quickly alighting after a somewhat untidy landing, he discovered two Royal Marines stalking him. He later recalled they were most disappointed to discover that he was a British naval officer. As he explained: 'They had come over to Belgium to shoot Germans and were simply aching to let off their rifles at their first opportunity.' The squadron's transport and stores followed later that day, conveyed by HMS *Empress*.

The next day Samson selected a site for his airfield near the harbour. Safely installed in its new home, the squadron began making reconnaissance flights over an area bordered by Bruges, Ghent and Ypres. However, the stay was to be brief. On 30 August an order was given recalling the Royal Marine brigade, and with it the naval aircraft. Samson was hugely disappointed. He began to seek an excuse that could prevent his having to comply. Nevertheless, Samson instructed his men to follow his lead and took off from Ostend, flying low towards Dunkirk. He admitted that he started 'with the fixed determination that at the slightest excuse I would stop at Dunkirk'. A slight haze over the town was excuse enough and Samson brought the squadron down. One of the pilots made a bad landing and wrote off his Blériot. Secretly delighted, Samson used the accident to further delay departure for England. Samson succeeded in convincing the French commander of Dunkirk of the value of aerial reconnaissance patrols. He also approached the British vice-consul for his support; this individual in turn expressed to the authorities at home the importance, both militarily and diplomatically, of the squadron remaining to assist the French. Then, to gain time while the lines of official communication buzzed, Samson informed the Admiralty that a blanket of 'heavy fog' over the Channel was keeping him grounded.

Samson's machinations paid off. On 1 September everything changed.

THE DÜSSELDORF AND COLOGNE RAIDS

The plan is born

Back in London, the perceived Zeppelin threat was a constant source of concern; the idea that German airships could approach the east coast largely undetected left Britain feeling exposed and vulnerable. To the ever-bullish Churchill, Samson's squadron at Dunkirk now seemed to offer a solution to the problem. In line with the maxim 'the best form of defence is attack', Churchill now advocated attacking Zeppelin bases in Germany – denying the potential aerial raiders a safe harbour and reducing the threat to Britain.

On 1 September the Admiralty sent a telegram to the French authorities:

> The Admiralty considers it extremely important to deny the use of territory within 100 miles radius of Dunkirk to German Zeppelins, and to attack by aeroplane all airships found replenishing there. With your permission the Admiralty wish to take necessary measures to maintain aerial command of this region.
>
> The Admiralty proposes therefore to place 30 to 40 naval aeroplanes at Dunkirk or other convenient coast points. In order that these may have good radius of action they must be able to establish mobile temporary bases 40 or 50 miles inland.
>
> The Admiralty desires to reinforce Officer Commanding aeroplanes with 50 or 60 armed motor cars and 200 or 300 men. This small force will operate in conformity with the wishes of the French military authorities, but we hope it may be accorded a free initiative. The immunity of Portsmouth, Chatham, and London from dangerous aerial attack is clearly involved.

Maj Eugene Louis Gerrard (1881–1963). Gerrard was commissioned into the Royal Marine Light Infantry in 1900 and qualified as one of the first four naval pilots alongside Samson in 1911. In August 1912 he became one of the first instructors at the RFC's Central Flying School and remained there until Churchill suggested that 'work of a more responsible character must be found for the officer'.

The request received immediate approval. Detailed orders for Samson swiftly followed – including the instruction: 'When possible, attacks are to be made on the Zeppelin sheds* at Düsseldorf and Cologne.' For the time being Samson was to continue with his small force of aeroplanes but more were to be sent when available, the plan being to use his command as the nucleus for a build-up to three squadrons of 12 aircraft each. The aircraft were to work with a force of specially created armoured cars which were to keep the defined patrol area free of German troops. Samson remained in overall command of the expedition; he appointed three squadron commanders. However, in these early weeks of the war no squadron generally had more than two or three aircraft available for deployment at any one time. The three squadrons and their commanders were:

No. 1 Squadron: Maj Eugene Gerrard RMLI
No. 2 Squadron: Lt-Cdr Spenser Douglas Adair Grey RN
No. 3 Squadron: Lt Richard Bell Davies RN

In accordance with Churchill's earlier wishes, work of a more 'responsible character' had been found for Maj Gerrard. Less than two weeks before, Gerrard had been teaching trainee pilots to fly at the Central Flying School; now he was at Dunkirk with the Naval Expeditionary Force – and Samson handed to him the responsibility for preparing the attack on the Zeppelin sheds at Düsseldorf and Cologne. In the meantime Samson, with the few aeroplanes at his disposal, immediately – on the afternoon of 1 September – began reconnaissance flights from Dunkirk, seeking any sign of Zeppelin activity and of the movement of any German army units into the patrol area. In no time the RNAS detachment, maintaining a level of independence throughout, had begun fighting a roving war on land and in the air that continued through the early months of the war.

A failed attempt

On 3 September Gerrard departed Dunkirk with three of the original aeroplanes – No. 31 (Henri Farman), No. 47 (B.E.2c) and No. 153 (Bristol). The aircraft headed back to Ostend on the first leg of the journey, intending to make Antwerp the base for operations for attacks on the Zeppelin sheds at Düsseldorf and Cologne. With Gerrard went three other pilots: Capt Ivor Courtney RM, Flt-Lt Charles Beevor and Flt-Lt Edward Osmond RN. Two other officers and 16 men went with the ground transport. The following day Gerrard travelled by road to Antwerp, where

* In British aviation parlance airships are housed in 'sheds' and aircraft in 'hangars'.

he met the British military attaché, the commandant of the Belgian Aviation Corps and a senior Belgian staff officer, and outlined his plan for the attack on the sheds. Having received assurances that local aviation resources would be at his disposal –including use of a Belgian airfield on the racecourse at Wilryck to the south of the city – Gerrard forwarded his plan of attack to the Admiralty. He then returned to Ostend to await approval; however, no such approval came.

The military situation in Belgium was changing rapidly. On 4 August 1914 the German Army had invaded the country, unleashing a modified version of the Schlieffen Plan. The great rampaging right hook of the German advance swept through Belgium into France, bypassing coastal towns and cities such as Antwerp and pushing French and British forces before it as it bore down on the goal of Paris. However, at the Marne River on 5 September the allies turned and counter-attacked; they halted the German advance and four days later forced the enemy to begin a retreat to the Aisne River. That same day, 9 September, the German Army was ordered to capture Antwerp. In these changing circumstances the city presented a severe threat to the German Army's rear. The Schlieffen Plan had failed and soon the race to the sea would commence, with each side striving to outflank the other all the way to the English Channel.

Back at Ostend, while Gerrard awaited approval of his plan, he and his pilots continued to fly reconnaissance patrols, reporting on German troop movements and concentrations. The weather took a turn for the worse on 11 September, with heavy rain setting in as the Belgian troops in Ostend left and marched for Antwerp. Dreadful weather continued on 12 September and then disaster struck. During the day a strong wind as well as the rain began to build up. Gerrard's three aircraft had no hangar at Ostend, so at about 7pm he ordered them pegged down in the lee of a large sand dune alongside two Belgian aircraft to ensure their safety in the threatening storm. The aircraft got through what appeared to be the worst of the storm. However, at about 11.45pm a sudden 70mph squall hit the aircraft side on, ripped out their pickets and sent them 'turning cartwheels' for 100–300yd. A sentry immediately raised the alarm but within the space of a minute it was over: all five British and Belgian aircraft lay in heaps of tangled wreckage.

The following day saw the members of the embryonic No. 1 Sqn going through the depressing process of salvaging serviceable parts from the three wrecked aircraft, packing them onto their transport and burning the remains. On the morning of 14 September Maj Gerrard ordered his squadron back to headquarters at Dunkirk, with the first attempt on Düsseldorf and Cologne abandoned.

The first Düsseldorf and Cologne raid

Samson had not been idle while Gerrard had been away. Regular reconnaissance flights had covered a wide area from Dunkirk, and the first motorized patrols had taken place. At first Samson's men used two ordinary cars which they had originally taken to France, armed with a machine gun. They had clad these vehicles with armour at a Dunkirk shipyard. However,

Charles Herbert Collet was 26 at the time of the raids. Commissioned into the Royal Marine Artillery, he learned to fly at the RFC's Central Flying School in October 1913, and in December that year joined the Naval Wing at Eastchurch. He died in a flying accident in 1915.

purpose-built armoured cars soon followed from England. This marked the beginning of a fluid period during which reconnaissance, probing and hit-and-run attacks were carried out that brought out the best buccaneering spirit in Samson's land-bound command. The pilots would join in whenever weather problems or lack of aircraft kept them grounded.

However, the idea of attacking Düsseldorf and Cologne had not been abandoned. Despite the shortage of aircraft, Samson ordered Gerrard to return to Antwerp on 16 September, taking with him Lt Charles Collet. This time the Air Department advised Samson that he should assume overall responsibility for the mission. Collet flew No. 906 (80hp Sopwith), while Samson gave his own aircraft, No. 50 (B.E.2b), to Gerrard. Both aircraft landed safely at Antwerp shortly after 1pm. Gerrard then met again with the British military attaché, Col W. E. Fairholme, who arranged meetings with the commandant-general of Antwerp and the Belgian aviation commandant, to confirm the provision of supplies and other support for the mission. The following day, 17 September, Gerrard and Fairholme visited the headquarters of the Belgian Field Army and, after an audience with King Albert of the Belgians, made further arrangements for the raid. Gerrard noted that the senior Belgian officers they spoke with were of the opinion 'that the venture is of a desperate nature'. However, Gerrard added, 'by using discretion and effecting a surprise, there is a good chance of success'. Gerrard also secured one highly significant agreement with the Belgian authorities. The distance to the two targets would test the endurance of the aircraft to the maximum, with any strong headwind increasing fuel consumption and possibly preventing a safe return. To overcome the problem, Baron Pierre de Caters – a Belgian aviation pioneer and racing car driver –

22 SEPTEMBER 1914

First Düsseldorf and Cologne raid commences

arranged to set up a temporary fuel depot about 50 miles east of Antwerp, protected by six armoured cars. The date set for the attack was 19 September.

Earlier, on 8 September, Sueter had sent Lt-Cdr Grey, commander of No. 2 Squadron, to see Lt-Col W. S. Brancker, the RFC's assistant director of military aeronautics, and secure the purchase of three Sopwith Tabloid aircraft for the RNAS. Consequently, two of these aircraft – Nos. 167 and 168 – were collected from Farnborough on 10 September by Grey and Lt Reginald Marix and flown back to Eastchurch, while the third went back to Sopwith for modifications. The first two aircraft underwent fitting of simple bomb frames under the fuselage, then departed for Dunkirk on 18 September. After a brief halt to refuel, Grey and Marix – all there was of No. 2 Squadron – flew on to Antwerp to join Gerrard and Collet. However, No. 167 sustained damage after landing in soft sand and needed repairs. Meanwhile, at Dunkirk, No. 49 (B.E.2b) and No. 149 (100hp Sopwith Sociable) were fitted with additional fuel tanks and bomb frames. These two aircraft set out for Antwerp on 19 September, with No. 49 allocated to No. 1 Squadron and No. 149 to No. 2 Squadron. However, No. 49 experienced engine problems and was forced to land prematurely; it then had to return to Dunkirk for repairs.

Samson visited Gerrard in Antwerp on 17 September and declared himself happy with the arrangements for the raid. However, the weather was bad; until it cleared the raid could not take place. The opportunity finally arrived on 22 September.

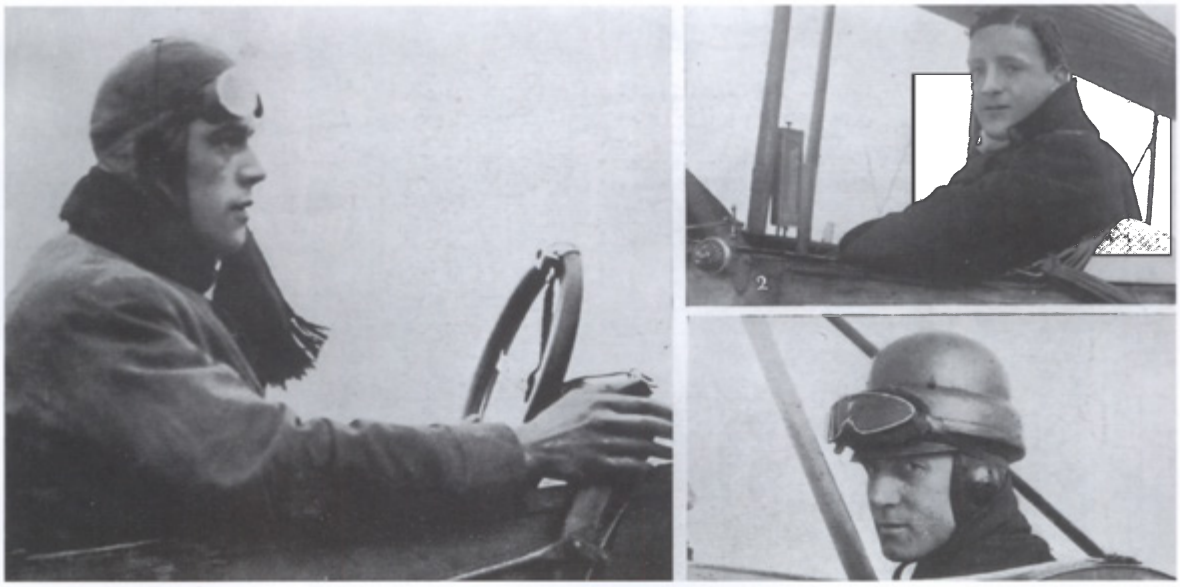
No. 1 Squadron: Düsseldorf
No. 50 (B.E.2b): Maj Eugene Gerrard
No. 906 (80hp Sopwith): Lt Charles Collet

No. 2 Squadron: Cologne
No. 149 (100hp Sopwith Sociable): Lt-Cdr Spenser Grey with Lt Edward Newton Clare as observer
No. 168 (Sopwith Tabloid): Lt Reginald Marix

'The surprise was complete'

During the evening of 21 September the weather had showed signs of improvement, and the four available aircraft were prepared for an early start in the morning should the improvement continue. Two aircraft each were to attack Düsseldorf and Cologne.

At daybreak on 22 September, with the skies clear, the four aircraft rumbled across the racecourse and lifted off on what was destined to be the world's first strategic bombing mission by an aeroplane. The direct lines of flight from Antwerp are 102 miles to Düsseldorf and 112 miles to Cologne. Everything ran smoothly until the aircraft reached the Roer River, a tributary of the Meuse, just over 70 miles from Antwerp. There a thick mist had arisen which blanketed the country eastward all the way to the Rhine – the river on



Spenser Douglas Adair Grey (left), Reginald Lennox George Marix (top right) and Sidney Vincent Sippe (bottom right). Although Sippe was at Antwerp in October, he did not take part in the attack on the Zeppelin sheds. Grey and Marix were both aged 25 at the time of the Düsseldorf and Cologne raids. Grey qualified as a pilot in 1911 and in 1913, while commanding Calshot Naval Air Station, had taken Churchill on a number of flights. Marix joined the RNVR in 1909 and received a commission in 1912. Posted to the RFC Naval Wing, he earned his wings in 1913.

which both targets stood. Lt Marix later reported 'the ground covered with 100% cloud'. He climbed to 2,500ft to get above it; when he believed he must be near the Rhine he began to descend.

> I came down to try and get under the cloud, but the first things I saw were tree-tops sticking out of thick mist and I pulled out just in time. I made a second attempt a little later but according to my altimeter the cloud or fog must have been down to the ground. The only thing to do was to turn back.

Gerrard and Grey were similarly frustrated in their efforts and they too turned for home.

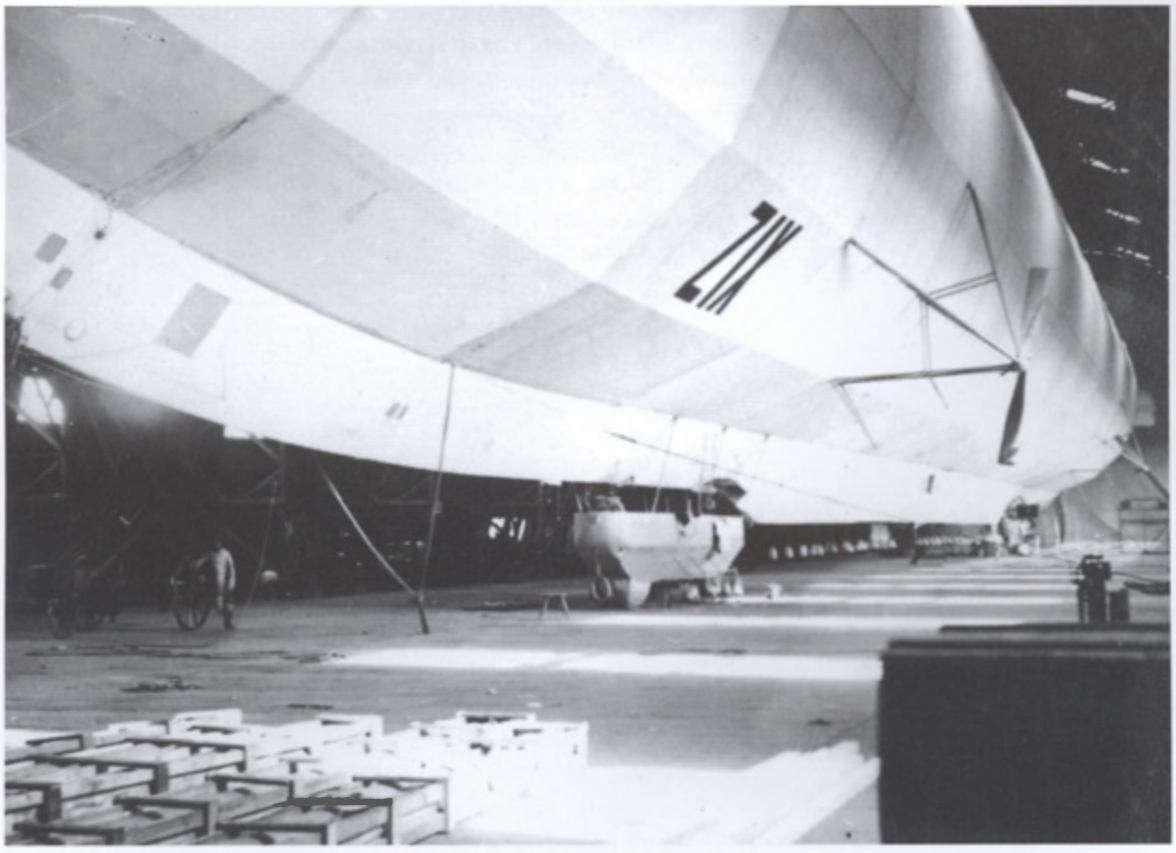
Near the River Meuse Gerrard's petrol pressure system failed, but he managed to bring his aircraft down safely on Belgian territory. Grey located the advanced refuelling base and landed there – having lost a bomb somewhere on route – before completing the journey, while Marix landed about six miles from the advance base. Collet, however, had more luck.

The first airship shed at Düsseldorf had been built in 1910 at Golzheim, to the north of the city proper. It housed Zeppelins for Count Zeppelin's commercial airline, DELAG (*Deutsche Luftschiffahrts AG*), but work had recently been undertaken to adapt the shed for use by military airships. At the same time work was started on a new shed at Lohausen, just over a mile further north. The first military airship to be based at Düsseldorf, the army's new Zeppelin *Z.IX*, took up residence in the Golzheim shed on 10 August 1914. The British authorities appear to have been unaware that a new shed was nearing completion. However, although Düsseldorf was now home to one of Germany's latest Zeppelins, arrangements for defence of the sheds remained minimal. A couple of false alarms early in August had prompted the commander of the airship facility, Dr Karl Bamler, to request provision of anti-aircraft guns and machine guns, but he was told none were available.

His only recourse would be rifle fire.

Collet, having followed a compass bearing and flown blindly over the mist at about 6,000ft, finally reached a point where he felt he must be close to his target. He switched off his engine and began a silent gliding descent, the last 1,500ft through the thick mist. He emerged into clear air at only 400ft and there, just a quarter of a mile away, was the Golzheim shed. It was a remarkable piece of luck – or impressive navigation. Collet headed his Sopwith straight for the shed at the maximum speed of 65mph. He expected to come under heavy fire any moment. However, he noticed that 'the surprise was complete... numerous Germans in the vicinity ran in all directions' as he took hold of the toggles which, when pulled, would release the bombs. At 8.45am Collet tugged at the first toggle, sending a single bomb towards the target. However, it landed 100ft short of the shed and exploded in sandy soil. Moments later a second bomb landed about 65ft from the target but failed to explode. The third bomb, dropped after Collet had cleared the shed, also appears not to have exploded. With his bomb-load released, Collet turned his Sopwith westwards and headed back to Antwerp, the bullets of the enraged Germans whistling past as he disappeared into the mist. He made it all the way to Antwerp without a refuelling stop; all four raiders were back by 1pm.

The Germans' inspection of the damage at Golzheim revealed nothing but broken windows. It had been a lucky escape: inside the shed were stacked some



The huge bulk of army Zeppelin *Z.IX*, housed in the Golzheim shed as it was when Collet attacked in September. The wooden crates contain aerial bombs. An M-Type Zeppelin, *Z.IX* made its first flight at Friedrichshafen in July 1914. (Collection DEHLA)

22 SEPTEMBER 1914

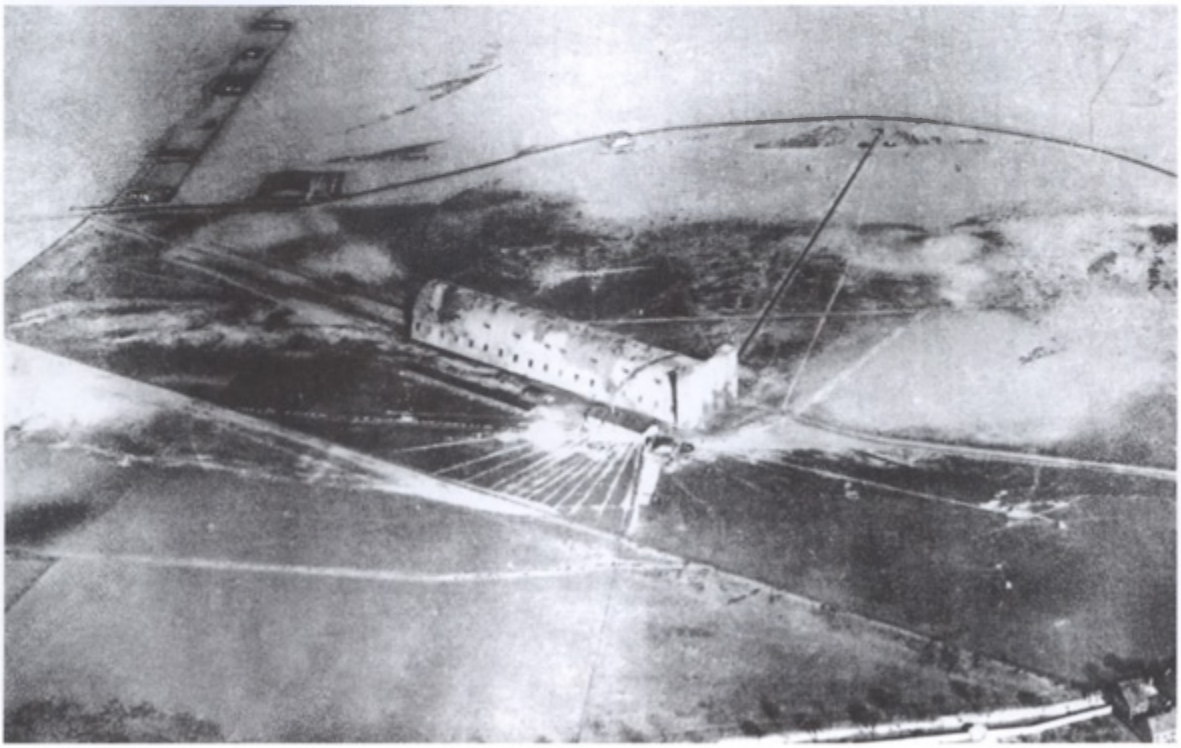
1pm
All four planes return to Antwerp

15,000kg of airship bombs. However, while the damage had been minimal, the effect on morale was great. British newspapers were full of praise for the daring enterprise, with plucky airmen taking the war to Germany and proving that reprisals were possible for attacks on Belgian and French towns and cities. In Düsseldorf, Bamler and the commander of Zeppelin *Z.IX*, *Hauptmann* Alfred Horn, urgently pressed for weaponry with which to protect their valuable charge, but despite their best efforts they received only two machine guns which were positioned on the corner towers of the Golzheim shed.

When Gerrard, back in Antwerp, had been preparing his report on the raid, he had belatedly raised the question of whether there was an issue in flying over the neutral Netherlands to attack the Zeppelin sheds. On 28 September Sir Francis Villiers, the senior British diplomat in Belgium, contacted him and requested that in future he did not use a similar route 'to avoid the possibility of involving the Belgian government with the Dutch government on our account'. Gerrard confided in a report sent to London that day that 'it would be difficult to reach Düsseldorf, but Cologne would still be possible without crossing portion of Holland'. In the meantime, Gerrard confirmed that he intended to make another attempt on the airship sheds as soon as repairs to damaged aircraft could be completed or any new aircraft arrived.

Gerrard's command did indeed increase by two the day after the raid when Flt-Lt Sidney Sippe flew in from Dunkirk with the repaired No. 49 (B.E.2b), accompanied by Sub-Lt Lord Carbery flying No. 169 (Sopwith Tabloid). Unfortunately, however, accidents involving No. 169 on 25 September and No. 149 the following day meant Gerrard was still left with just four

The first Düsseldorf Zeppelin shed, built at Golzheim in 1910 for DELAG, as it would have looked to Collet when he unsuccessfully attacked it in September 1914. The military authorities took over the shed in 1913 and modified it for use by army Zeppelins. (Collection DEHLA)



serviceable aircraft. Required to continue with reconnaissance flights, Gerrard began to grow concerned that attrition of his aircraft might stop him ever being in a position to strike at the airship sheds again. He wrote in his report on 28 September:

> The aerodrome here is not good at all and the surrounding country is very bad for flying over, and I propose to use the machines very sparingly for general work and keep them intact for the special purpose in view.

While Gerrard waited for repairs to bring his command back up to strength, dramatic events elsewhere were about to set a diminishing time limit within which to achieve the 'special purpose'.

28 SEPTEMBER 1914

Germans begin the attack on Antwerp

The fall of Antwerp

Attacks on Antwerp did not commence as soon as the German high command authorized the city's capture on 9 September. It took time to assemble the troops and heavy siege guns required to overcome the triple ring of forts defending the city. These sheltered the Belgian Field Army and the Antwerp garrison (amounting to some 150,000 men in total), as well as Belgium's king and government. Throughout this period a wide corridor to the west of the city remained open, allowing free communication with the governments of Great Britain and France. The Germans began the attack on Antwerp on 28 September, with massive howitzers bombarding the outer ring of forts about ten miles outside the city on the main southern approach from Brussels. These forts, although built of concrete and steel, were no match for the concentrated fire of such heavy guns. With their own guns unable to match the range of those firing upon them, their fall was inevitable. By 1 October four of the main southern forts were out of action. German forces had gained a foothold on the Nethe River on the city's outer limits, and had pushed west to the Scheldt River. The front line was now just over six miles from the airfield at Wilryck.

The Belgian Council of War considered its position. Resigned to the loss of the city, on 2 October it announced that the government would depart for Ostend, with the advance guard of the army also marching out of the city. This came as a major shock to the British: they, with the French, had been planning to send troops to aid the defence of Antwerp. The British government sent a telegram urging the Belgians to delay the move and promising reinforcements. It directed Churchill, the First Lord of the Admiralty, who was about to make a visit to Dunkirk, to Antwerp instead to assess the situation at first hand. The Belgian government agreed to delay and Churchill arrived on the afternoon of 3 October.

From 28 September the RNAS aeroplanes at Antwerp had been flying reconnaissance flights over the German positions and carrying out bombing attacks on important railway junctions. Then on 3 October the remaining aircraft of the naval expeditionary force were directed to assemble at Antwerp. The next day Samson arrived in the city by road with his armoured cars, escorting an extraordinary convoy of 70 London buses; these were intended as transport for a Royal Marine brigade rushed into Antwerp and

7 OCTOBER 1914

5am British aircraft withdraw from Antwerp, leaving behind only the raiders

pushed straight into the front line to relieve the exhausted Belgians. Samson immediately took command of all the aircraft. That evening Churchill was on the front line with the Marines. Even though the enemy was so close, the reality of war had not yet penetrated to the centre of Antwerp. An extraordinary calm prevailed. As Churchill later wrote:

> Here, for the first time, I saw German soldiers creeping forward from house to house or darting across the street. The Marines fired with machine guns from a balcony. The flashes of the rifles and the streams pulsating from the mouth of the machine-guns, lit up a warlike scene amid crashing reverberations and the whistle of bullets.
>
> Twenty minutes in a motor car, and we were back in the warmth and light of one of the best hotels in Europe, with its perfectly appointed tables and attentive servants all proceeding as usual!

Heavy fighting continued along the line of the Nethe throughout 5 October. That evening the two remaining brigades of the Royal Naval Division, partially trained and ill equipped, arrived, having been rushed over from England. The next morning they were positioned in reserve behind the front line. On 5 October all Samson's aircraft were flying in support of the infantry. However, on 6 October German artillery opened fire on the inner ring of forts.

That evening the Belgian government, reluctant to delay any longer, announced that the Field Army would evacuate the city. Churchill returned to London that night. The task of defending the city now fell on its garrison troops, supported by a Belgian division and the three British naval brigades. Samson was ordered to leave the city by dawn on 7 October along with his armoured cars and aeroplanes, although two Sopwith Tabloids were to remain as long as possible in order to make one final defiant attempt on the Düsseldorf and Cologne Zeppelin sheds. According to Lt Marix, Lt-Cdr Grey had gone into Antwerp before Churchill departed, in order to seek permission to attack the sheds. Marix recalled that Churchill refused, telling Grey it was now too late and everyone needed to get ready to leave. However, Grey persisted – even when Churchill retired to the toilet, Grey continued pleading his case through the cubicle door. Marix claims an exasperated Churchill finally consented to the

Sqn-Cdr Spenser Grey (centre, in long coat) stands in front of Sopwith Sociable No. 149. The type gained its name from having side-by-side seats with dual controls. Originally built so that Churchill could take flying lessons, the type was also known as the Churchill or the Tweenie. Grey flew No. 149 in the unsuccessful raid on Cologne in September.

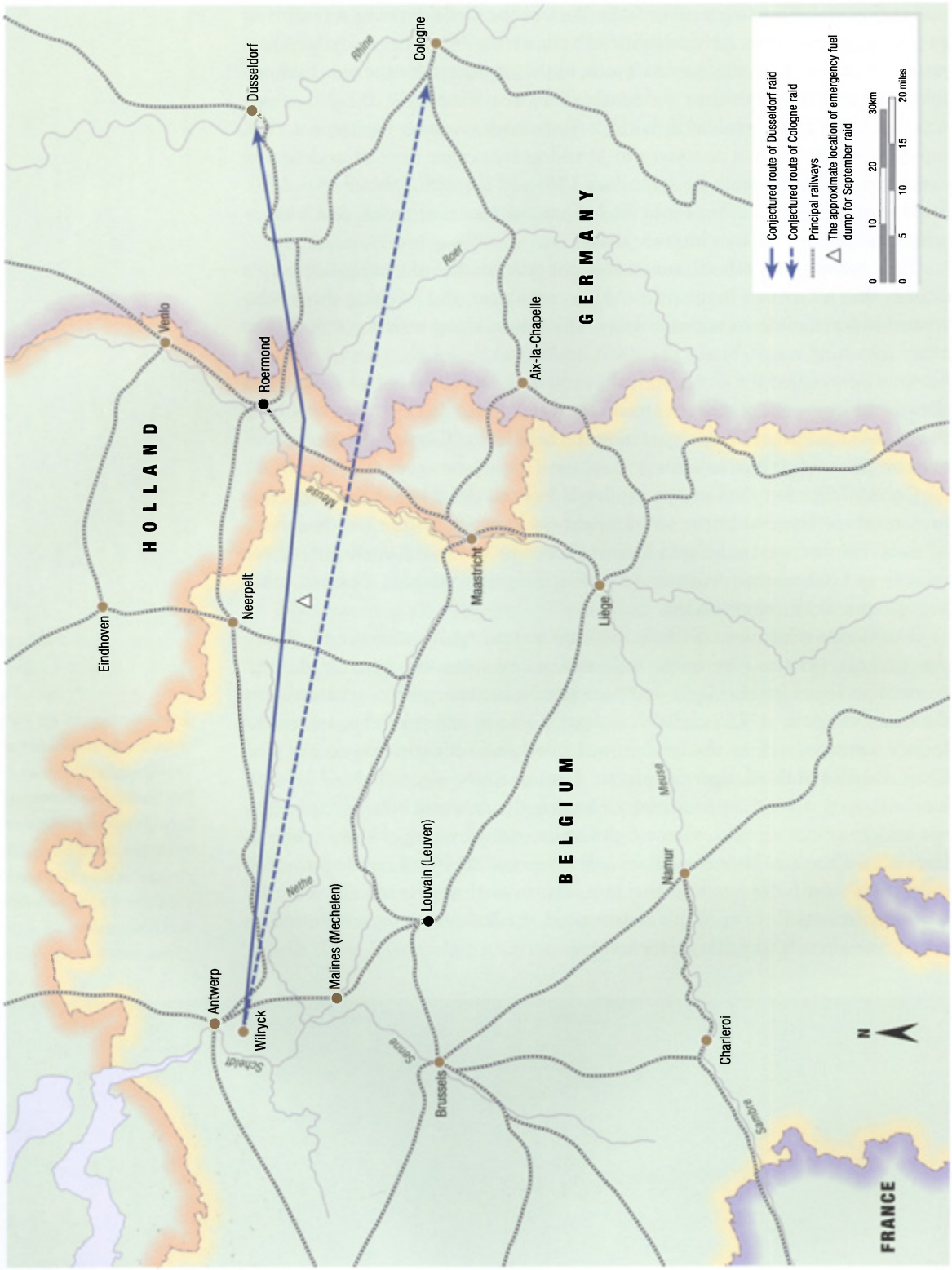
raid taking place just to get rid of Grey. Back at the airfield a mad scramble of packing continued through the night, but at dawn on 7 October everything was ready. At 5am all serviceable aircraft took to the air, except for the two Tabloids (Nos. 167 and 168) with Grey and Marix. They also left No. 49 (B.E.2b), which was suffering engine problems, with Lt Sippe endeavouring to repair it. The rapid departure made it necessary to abandon two other aircraft undergoing major repairs: the Sopwith Sociable (No. 149) and Sopwith Tabloid (No. 169). Samson also left his brother, Flt-Lt W. L. Samson, four mechanics, and a car in which the group were to withdraw later.

That morning an official announcement was made, informing Antwerp's citizens that a German bombardment was imminent and advising those who wished to leave to do so without delay. This news, along with the sight of the army marching away, broke the spirit of Antwerp's inhabitants. A mass of humanity evacuated the city, frantically crowding onto boats of all shapes and sizes at the quayside; others streamed westwards towards Ghent, on foot over the exposed pontoon bridge spanning the Scheldt; still others headed north towards the neutral Netherlands.

During 7 October the German artillery advanced closer to the city, preparing to commence bombardment at midnight, as the city authorities had been advised. Further west a belated German attempt to cut the Antwerp–Ghent railway at Lokeren was frustrated by stout Belgian resistance. Poor weather kept Grey and Marix grounded

The German barrage on the inner forts started again at about 11.30pm; the barrage on the city itself followed a few minutes after midnight. It continued through the night and prompted a second mass evacuation. For the time being the RNAS airfield, a short distance behind the inner line of forts, escaped attack as shells screamed overhead on their way to the city. Grey, mindful of the danger of splinter damage to the aircraft should a shell hit the hangar, took the precaution of having the two machines relocated to the middle of the airfield. Fierce fighting continued along the inner line of forts on 8 October. However, although Grey and Marix were desperate to start their raid before it was too late, the mist that greeted them in the morning prevented them. While they waited, the little group concentrated on tuning the aircraft to peak performance.

An early version of the 20lb Hales bomb, as used in the 1914 Zeppelin base raids. This bomb, 21in from nose to tail, is actually one of two that failed to explode when dropped in the attack on the Golzheim (Düsseldorf) shed on 22 September. (Collection DEHLA)



The Düsseldorf and Cologne raids.

The second Düsseldorf and Cologne raid

One last chance

At 1pm the poor conditions persisted. Grey, with time running out, recognized that it was now or never. He gave the order. Grey himself was first off at 1.20pm in Tabloid No. 167, target Cologne. Ten minutes later Lt Marix in Tabloid No. 168 set course for Düsseldorf. Each aircraft carried just two 20lb Hales bombs. This time, as they lacked the security of an emergency fuel dump for the return journey, Grey and Marix had induced some Belgian mechanics to build and fit extra fuel tanks.

Grey found his way to Cologne without any problems, again flying over neutral Dutch territory, but as he closed on the city he found it engulfed in a thick mist. To add to his difficulties he was unsure of the exact location of the Zeppelin shed. Grey had two possible positions – one to the north-west of the city and one to the south. The shed was in fact at Bickendorf, to the north-west. Grey descended through the mist to 600ft and began to search the area, despite attracting 'a heavy fire'. After ten to 12 minutes of fruitless searching he gave up and 'considered the best point to attack would be the main railway station in the middle of the town where I saw many trains drawn up'. The station, situated alongside Cologne's magnificent cathedral, presented a massive target. Grey released his two bombs and turned back to Antwerp.

8 OCTOBER 1914

1pm
Second Düsseldorf and Cologne raid commences

A reproduction Sopwith Tabloid on display at the RAF Museum, Hendon. The aircraft is a replica of the aircraft Marix flew when he bombed the Düsseldorf Zeppelin shed in October 1914.

A Cologne newspaper offered an alternative view of events. It claimed an enemy aircraft appeared over the Bickendorf shed, but was

> chased away from there by machinegun fire, it dropped a bomb over the gasworks in Ehrenfeld [south of Bickendorf], continued from there to the South Bridge [over the Rhine in Cologne] and from there towards Fort Deckstein [south-west of the city] and disappeared in a westerly direction. No damage was caused anywhere.

Wherever his bombs actually landed, Grey landed safely back at Antwerp at 4.45pm after an uneventful return flight. There was no sign of Marix.

'Reggie' Marix had clambered into his Tabloid just before 1.30pm. He had removed his uniform cap, suspending it around his neck on a length of string so it hung down his back. He reasoned that he might need it if forced down and taken prisoner. He replaced the cap with the reinforced leather skull-cap much favoured by airmen at the time. A final instrument check and he was off.

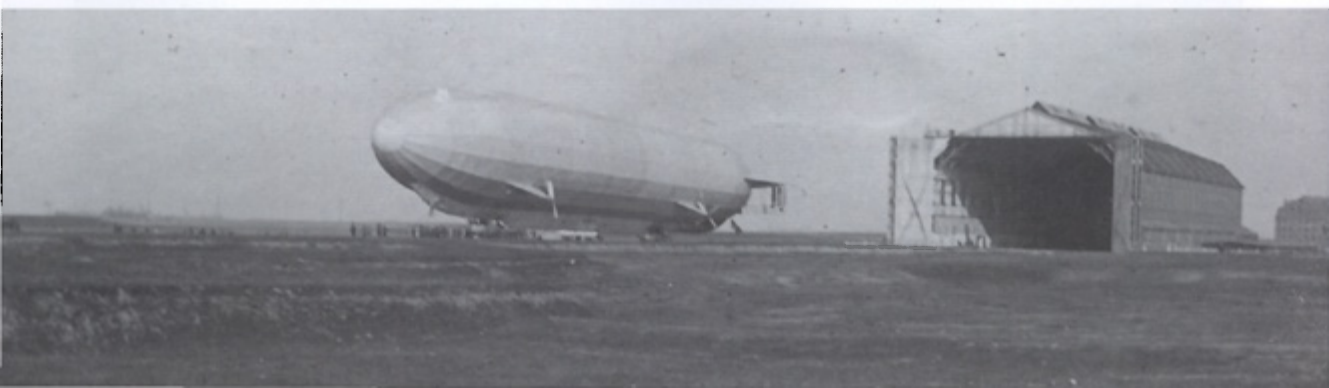
Marix headed west at first, flying low over the trees, then began circling to the north of the city, avoiding the German concentrations to the south, before setting course eastwards to Germany and his target – Düsseldorf.

In the 16 days since the previous attack on Düsseldorf, little had been done to improve the defences of the Zeppelin sheds. However, work on the new shed at Lohausen was complete, and on 3 October *Hauptmann* Horn had transferred Zeppelin *Z.IX* there from Golzheim. The two machine guns mounted to defend Golzheim were also moved to Lohausen.

Marix was flying at about 3,000ft as he approached Düsseldorf from the south-west; he later recalled that he 'had a good trip and got to my destination without incident'. However, his approach had not gone unnoticed. The news was quickly passed to the Zeppelin sheds north of the city. Marix continued over the old city, descending slowly, before turning north. Now, however, Marix had a problem. He scanned the ground but could not locate the Zeppelin shed. In his account of the raid he later wrote that 'the shed was not where I expected to find it, and my map had been wrongly marked. So I had to fly around a bit, which excited some interest.'

This 'interest' came from an anti-aircraft gun positioned at a munitions factory in Derendorf. The gun fired three rounds before it jammed. Marix recalled his relief that the shells went well wide of the mark.

Marix was looking for the Golzheim shed – the one Collet had attacked in September. Marix was unaware of the existence of the new Lohausen shed. When he did eventually discover the latter, he presumed it to be Golzheim –



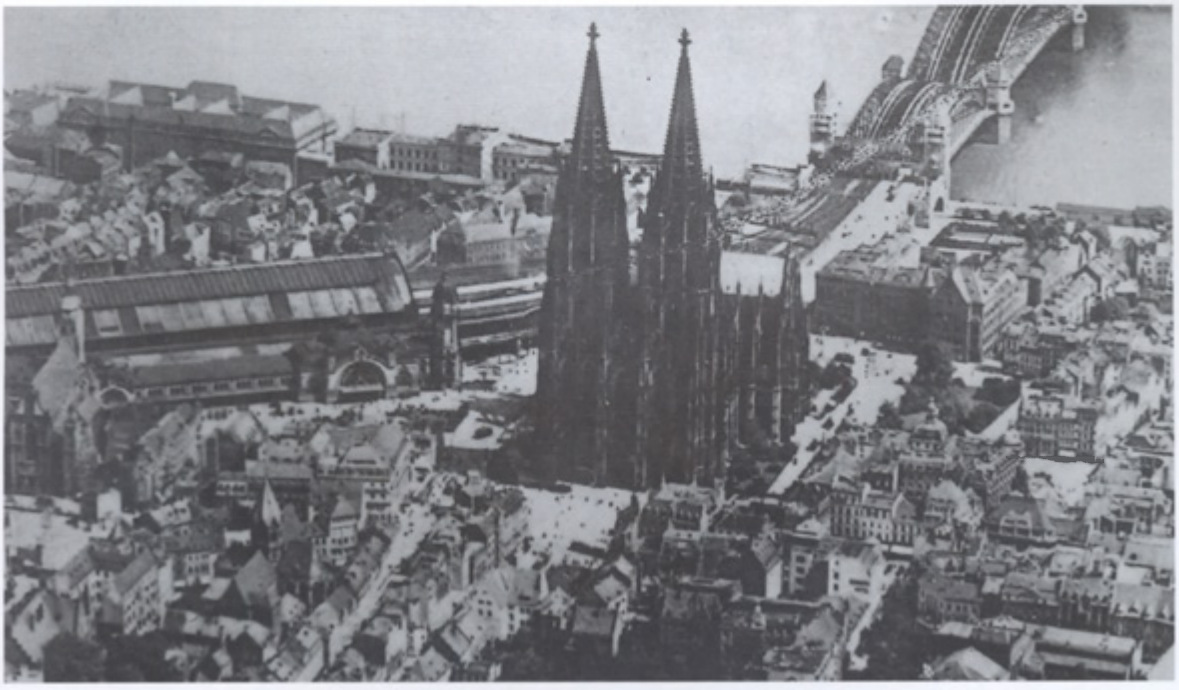
Although the Cologne Zeppelin shed had been built at Bickendorf in 1909, it seems its exact location remained uncertain to the raiding pilots. The shed was isolated and apparently presented an obvious target, but thick mist prevented it being bombed in both September and October 1914. (Werner Müller – www.koelner-luftfahrt.de)

although he 'found the shed further away from the town than expected'. In fact, just at the moment that Marix spotted the shed at Lohausen about a mile distant, he was actually flying over Golzheim without realizing. He came under rifle fire from guards at the shed, and moments later bullets fired from an army rifle range also whizzed past. However, Marix remained focused on the Zeppelin shed. He had one last decision to make.

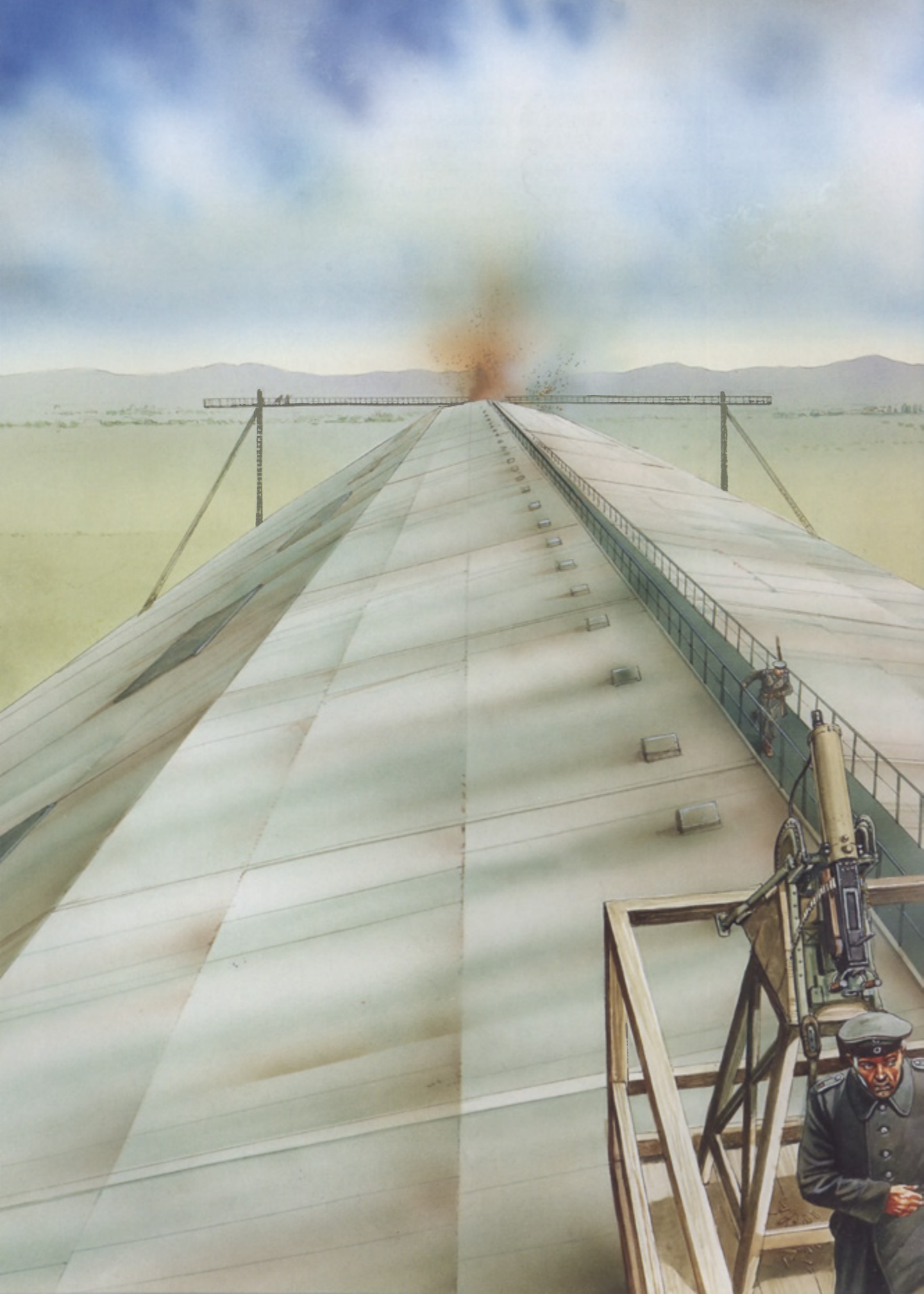
> As soon as I was sure of my target I put my nose down and dived with my engine still on. One would not normally do this as it puts an awful strain on the rotary Gnome [engine] as the revs go up. One usually switched off to come down, but then it took a certain amount of time for the engine to pick up again. I wanted no loitering near the ground.
>
> The Gnome stood up, and when I was about 500 feet I released the two bombs, one after the other, and began to pull out of the dive. [In an earlier report Marix said he was at 600ft; a German source estimates the first bomb was released at just over 700ft and the second at just below 600 ft].

Although fully focused on the target, Marix recalled the machine guns defending the shed opening fire with 'rapid points of flame'. His first bomb exploded just short of the shed and did no damage other than gouging a crater in the earth, but the second bomb completely justified the trials and tribulations of the month-long operation. Marix scored a direct hit.

As Marix pulled his straining aircraft out of the dive, he glanced over his shoulder 'and was rewarded with the sight of enormous sheets of flame pouring out of the shed. It was a magnificent sight.'



Unable to find the Cologne Zeppelin shed due to a thick mist, Grey decided to drop his two bombs on the city. He targeted the main railway station where he 'saw many trains drawn up'. The station is to the left of the cathedral.



PREVIOUS PAGES:
Düsseldorf – 8 October 1914. The culmination of almost six weeks' planning as Reggie Marix in his Sopwith Tabloid releases the second of his two 20lb bombs on the Lohausen Zeppelin shed. Smoke from his first bomb, which landed just short of the target, is visible at the far end of the shed; the second was much more successful. As the crews of the Maxims allocated to defend the shed make a final attempt to shoot the Tabloid down, Marix's second bomb is about to strike home. Inside the shed the army's latest Zeppelin, Z.IX, was just seconds from total destruction. However, Marix's aircraft did not escape unscathed. Bullets fired by the defiant German gunners had damaged wires controlling his rudder and for a few moments he contemplated a one-way journey deep into Germany, until he managed to slowly coax his aircraft around.

His second bomb had smashed through the roof of the shed and exploded inside, hot shrapnel ripping into the dormant Zeppelin. Within seconds the hydrogen inside the airship's gas cells was burning intensely, sending flames shooting up 500ft through the roof and forming a great pall of thick black smoke over the shed.

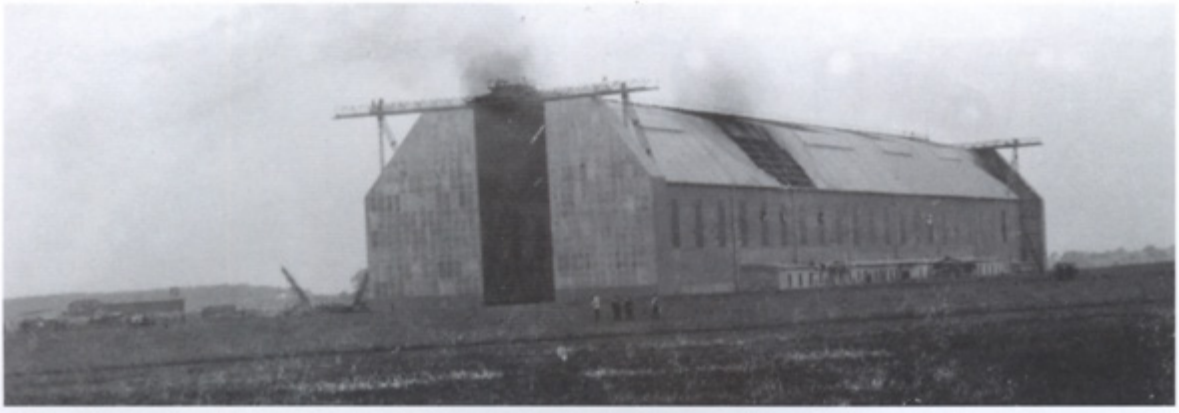
The flames, blocking the internal stairway, cut off the machine-gunners' escape route, forcing them to slide down the roof to ladders that troops had rushed to their rescue. The pressure of the blast forced the massive sliding doors off their footings, while the tremendous heat generated inside the shed caused the Zeppelin's loaded bomb racks to melt, dropping their potentially lethal cargo to the ground. Fortunately for the Germans, the bombs were not fused. As Marix disappeared into the distance, Zeppelin *Z.IX* crumpled under its own weight, a burning, tangled wreck of red-hot metal. Four people were dead and ten others injured.

The adventure continues

Marix did not escape unscathed. Having begun to climb away from the burning shed, he tried to turn – but the rudder did not respond. For a moment he found with horror that he was heading further into Germany. Bullets had severed one of the two wires connecting the rudder bar to the rudder; another bullet had struck one of the metal guides through which the second wire passed, fusing them together; the rudder was jammed, preventing Marix from turning. Fortunately, the Sopwith Tabloid used wing-warping instead of ailerons for lateral control and Marix quickly discovered that by careful manipulation he could slowly turn the aircraft. He gradually brought it around until he was back on course for Antwerp. But this was only the start of the problems that marked Marix's remarkable journey back to safety.

By the time the light began to fade Marix, by skilful flying, had got back to within 20 miles of Antwerp. However, he realized then that crosswinds had forced him some five to ten miles north of his true course. If he tried to reach Wilryck, fuel-supply issues raised the spectre of an emergency landing in the dark, with no rudder control. Rather than take that risk Marix at once selected a large field and brought his Tabloid down; fortunately, he was able to land in one piece. While Marix pondered his next move, a group of Belgian gendarmes appeared. They confirmed that he was north of Antwerp. He explained that he needed to get back to the city. The gendarmes told him a railway engine would be leaving shortly from a nearby station, hoping to get into Antwerp to bring out a trainload of refugees. The gendarmes arranged for Marix to ride on the engine when it left. While he waited, Marix inspected his aircraft. The enemy fire encountered over Düsseldorf had been more accurate than he had realized: he counted 30 bullet holes in the fuselage and wings – and one through the peak of the cap he had hung around his neck. Before the engine left he arranged with the gendarmes to guard his Tabloid until he could return in the morning with mechanics and fuel. However, this was a rendezvous he would never make.

The train journey was uneventful, but the engine was forced to stop five miles short of the city, unable to proceed further. Marix looked around for some other means of transport and spied a local civilian on a bicycle. Quite what



The Lohausen (Düsseldorf) Zeppelin shed still smouldering after Marix's attack. Although the pilot reported seeing 500ft flames, the limited damage to the roof is evident. The machine-gun platform is just visible above the doors. (Collection DEHLA)

happened next is unclear; the official report states that Marix returned 'to Antwerp by a bicycle he borrowed from a peasant' while in the pilot's more personal account compiled after the war he wrote: 'with some difficulty I commandeered a bicycle and pedalled off'. Clearly the 'borrowed' bicycle never found its way back to its no doubt disgruntled and bewildered owner.

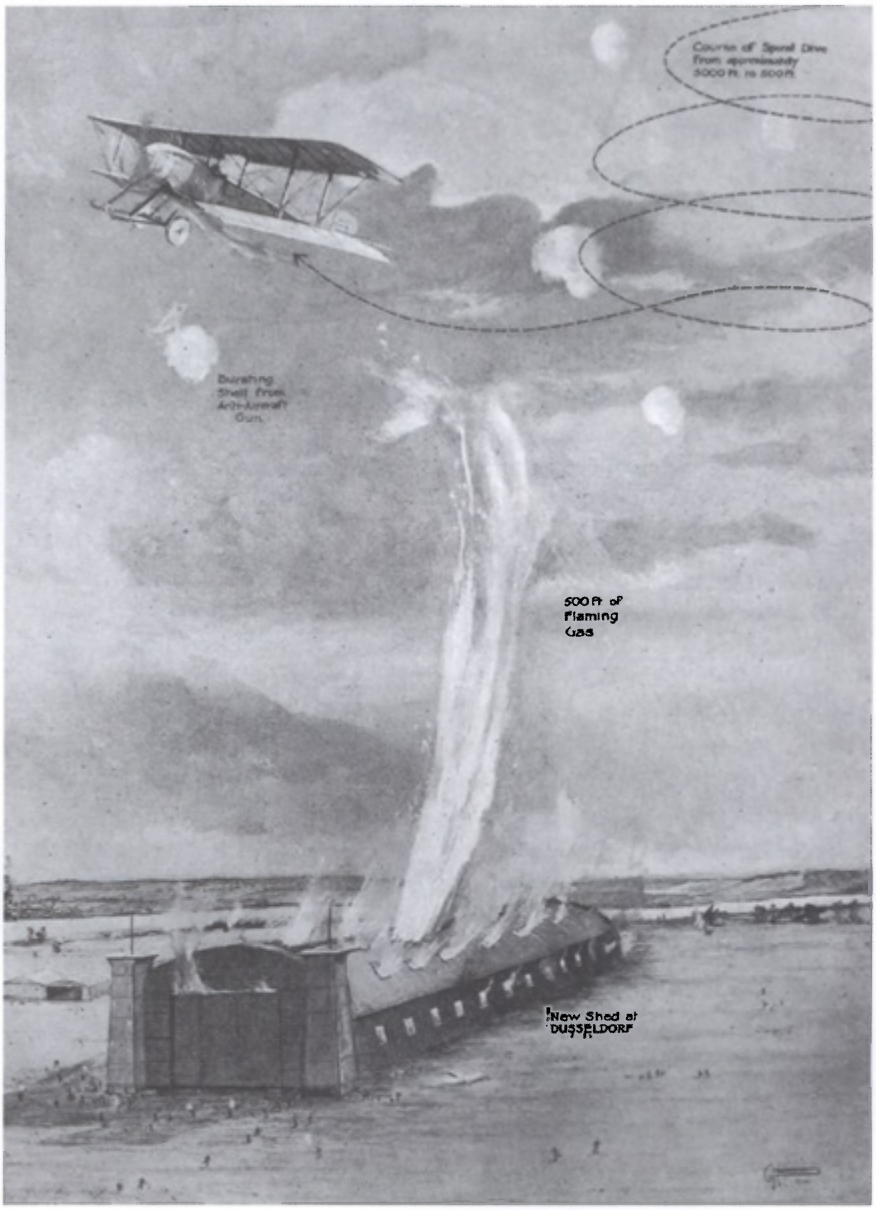
A further obstacle presented itself on his route into the city: a bridge heavily protected with barbed wire, so there was no way he could cycle across. However, with the help of a sentry Marix hung the bicycle on his back, clambered onto the outside rail of the bridge and carefully edged his way across.

Marix then cycled through the eerily deserted city to the Hôtel St-Antoine, which 24 hours previously had been the bustling British headquarters. Although the building was now deserted, the exhausted pilot found an old caretaker who produced some food and wine for him. Duly refreshed, Marix returned to his bicycle and resumed his journey. In one of Antwerp's great squares he found a group of Belgian soldiers with two cars. After he explained his predicament, two of the soldiers agreed to drive him to the airfield.

After Grey's return to the airfield at 4.45pm, it became a question of just how long the personnel could afford to wait for news of Marix. From about 8.30pm German shells began to drop onto the airfield. The small group of pilots and mechanics, now joined by two Royal Marines who had become separated from the main body when it commenced its retirement at 6pm, constantly shifted Grey's Tabloid and Sippe's B.E.2b about to avoid deliberate targeting; however, eventually both sustained serious damage.

When Marix and the two Belgian soldiers finally arrived at the airfield it appeared completely deserted. The three men cautiously approached the darkened mansion at the edge of the airfield that had served as the officers' quarters. Inside Grey and Sippe nervously watched their approach and, as the Belgians began talking in Flemish, Sippe prepared to fire at the 'Germans'. Just at the crucial moment Marix spoke in English and averted disaster. It was now clear that it was time to go – Germans were reported in the woods bordering the airfield and one of the mechanics had been shot at. At 11.30pm on 8 October, Grey, Marix, Sippe, W. L. Samson, four mechanics and the two Royal Marines piled into their car and a small recently acquired lorry and headed for the road west over the Scheldt. The great tide of refugees

With the public keen to learn more about the Düsseldorf raid, this illustration was rushed into print in a newspaper on 24 October. The picture incorrectly shows the Golzheim shed – the only one that appears to have been known of at that time.


Course of Spiral Dive from approximately 5000 ft. to 600 ft.
Bursting Shell from Anti-Aircraft Gun
500 ft of Flaming Gas
New Shed at DUSSELDORF

8 OCTOBER 1914

11.30pm The returned raiders abandon the Antwerp airfield

slowed their progress to a crawl but they eventually reached Ghent shortly after daybreak. By 5pm they were in Ostend and reunited with their comrades who had left Antwerp at dawn on 7 October. Grey received immediate orders to proceed to England and report personally to the Admiralty on the success of the mission.

The first German units moved in to occupy Antwerp at 1pm on 9 October. The successful conclusion of the raid had come with just hours to spare. On 10 October British newspapers began trumpeting the story of the great enterprise and feting the achievement of Lt Reggie Marix and the RNAS in destroying a Zeppelin in its lair. By the end of the month Marix was the proud recipient of the Distinguished Service Order.

Military personnel inspecting the tangled metal remains of Zeppelin *Z.IX*. The lack of blackening inside the shed suggests that the flames did not spread after the hydrogen burnt off, with the force vented through the hole made in the roof by the bomb, creating the column of flame reported by Marix. (Collection DEHLA)

Recriminations and results

In Germany accusations began to fly. Espionage was the only explanation – how else could the British have known that Zeppelin *Z.IX* had just moved to the new shed? In a knee-jerk reaction, English clerks working at the American Embassy in Berlin were arrested in the belief they had passed on information. But that was not the case. There is no suggestion in the records to show that the British knew there were two sheds at Düsseldorf. Marix, despite anxiously searching, had managed to miss sighting the old Golzheim shed, although he flew very close to it. Instead, with good fortune, he found the new Lohausen shed. He himself dismissed the espionage theory later, commenting: 'It was just luck that a Zepp was in the shed.'

Incredibly, despite the great heat generated by the burning Zeppelin, the shed did not suffer severe damage other than to its roof. *Oberleutnant* Ernst Lehmann, a Zeppelin commander based at Cologne, went to see the damage and commented that he 'was surprised to find that the [shed] itself was practically undamaged'. A Dutch businessman, J. B. van Heek, was also at the shed around this time. In a letter to a friend in England he wrote: 'The roof had been entirely destroyed, the walls partly, and about sixty men were busy repairing.' It seems that those men did a good job because just ten days after the raid the shed accepted the arrival of the army's latest Zeppelin, *Z.X*. Belatedly, improved anti-aircraft measures were now introduced at Düsseldorf – but with Antwerp occupied by the Germans, swiftly followed by Zeebrugge and Ostend, both Düsseldorf and Cologne would now be safe from further aerial attack by British aircraft.

THE FRIEDRICHSHAFEN RAID

Planning the raid: the right man for the job

With Düsseldorf and Cologne now out of range of air attack, Sueter, back in London, looked for other options to pursue the strategy favoured by Churchill. The main Zeppelin factory at Friedrichshafen – a small town on the north shore of Lake Constance in southern Germany – offered a tempting and highly symbolic target. There were no British airfields within striking distance, but the French did have an airship base at Belfort, close to the German and Swiss frontiers. On 13 October Lt-Col H. P. Picot, the British military attaché in Switzerland, had sent an impatient telegram to the Foreign Office in London in which he recommended the targeting of Friedrichshafen:

> In view of great activity reported in the construction of Zeppelins at Friedrichshafen, Lake Constance, I urgently suggest aeroplane raid from Belfort... This suggestion already made in demi-official letter to Colonel Dallas, War Office, October 1st. Opportunity may be lost if further delay occurs.

The Foreign Office did react. Next day it referred the matter to Sir Francis Bertie, the British Ambassador to France, suggesting:

> French Minister for War should be informed; the operation suggested seems analogous to that undertaken by our aviators from Antwerp to Düsseldorf, but the operation from Belfort could only be undertaken by the French. Please let us know if they think they can undertake it.

Some days later, on 23 October, Murray Sueter saw the telegram and demanded to know 'who said the French only can undertake this attack'. There was a reason behind Sueter's challenge: he had already started planning the operation. In fact, his man had departed for France two days earlier to set the plan in motion. That man was Noel Pemberton Billing.

Pemberton Billing was an extraordinary character. He had an interesting and varied past – and would have a similar future. An inventor, entrepreneur and adventure-seeker, he had boundless energy and enthusiasm, was charismatic and hugely patriotic; however, he was also opinionated and had little tolerance of bureaucracy.

Even in the early days of flying, Pemberton Billing had expressed a great belief in the importance of an effective air defence for Great Britain in any future war. In 1913 – for a wager – he learned to fly, gaining his Royal Aero Club Certificate within the space of 24 hours. He then decided to redirect his established boat-building skills towards aircraft design. He set up a factory near Southampton where he built his first aircraft, the Pemberton Billing P.B.1 flying boat. By the summer of 1914 the prolific Pemberton Billing was working on the P.B.7. However, the authorities evinced little enthusiasm for or confidence in his aircraft. On 31 July 1914 Pemberton Billing gained an appointment with Murray Sueter at the Admiralty. He was hoping to obtain orders for his P.B.7 seaplane. Sueter failed to be convinced of the aircraft's merits. However, Pemberton Billing now realized that the Admiralty was more interested in landplanes. He immediately began to consider building a fast single-seater scout aircraft – the P.B.9. Plans were drawn up and on 4 August work began on the prototype, which made a successful test flight on 11 August. This incredible speed of production – so typical of Pemberton Billing – earned the aircraft the nickname 'the seven-day bus'. However, when the aircraft was put through strict military trials the test pilot became increasingly concerned about airworthiness. Trying to make a point, an irritated Pemberton Billing took the controls but managed to smash the aircraft's undercarriage while still on the ground.

Noel Pemberton Billing (1881–1948). A remarkable character whose great passion for aviation saw him enter Parliament after his role in planning the Friedrichshafen raid, as the self-styled 'first air member'; he agitated for reform of the government's air policy. He remained independent MP for East Hertford from 1916 to 1921, when he was replaced by Murray Sueter.

Throughout this period Pemberton Billing had, in his own words,

> haunted the passages of the War Office and Admiralty, sometimes from ten in the morning till ten at night. I offered to design, to work, to build, to hand over to them all my facilities at Southampton...but never an offer was accepted during that terrible first month of bloody war.

The next step is a little unclear but it seems that Pemberton Billing's determination and enthusiasm did impress Sueter, while episodes from his past confirmed a considerable ability to plan and carry out complex operations.

13 OCTOBER 1914

British military attaché in Switzerland recommends targeting Friedrichshafen

In particular, there was a successful enterprise in 1913, when Pemberton Billing had sailed to Monte Carlo on a mission to recover a steam yacht for a Southampton boat-dealer.

His plan to recover the boat, chartered but not paid for by a German officer, required ingenuity, daring and bravado to pull off, but was successful.

On 14 October Sueter authorized a commission for Pemberton Billing as temporary lieutenant in the Royal Naval Volunteer Reserve (RNVR). Then on 21 October Pemberton Billing set off for Belfort with a friend, F. A. Brock, appointed a sub-lieutenant in the RNVR on 18 October. Wearing civilian clothes and travelling in Pemberton Billing's ostentatious white sports car, the men arrived in Belfort three days later.

Sueter later wrote:

> I placed Lieutenant Pemberton-Billing in charge of all the details in connection with transporting the [aircraft] from this country to Belfort...he was a fine organizer and capable man in arranging an operation of this nature.

At Belfort, located in Alsace just seven miles from the German border, Pemberton Billing contacted the French authorities to discuss using the airfield. Initially the French expressed concerns, as they themselves had been considering a mission against Friedrichshafen, but eventually Pemberton Billing gained permission to use Belfort as a base for the operation along with one of the airship sheds. Nevertheless, the French stipulated that their permission was on the condition that the operation was undertaken in complete secrecy and that it was completed within 30 days.

Behind enemy lines

As soon as the agreement had been reached, Pemberton Billing and Brock drove to the Swiss border where they declared themselves commercial travellers and continued on to the town of Romanshorn, about eight miles across Lake Constance opposite Friedrichshafen. Here they purchased maps and befriended some fishermen, one of whom they persuaded to take them across the lake after dark. Weeks later, in December, the German press suggested that the British Ambassador to Switzerland, Sir Evelyn Grant Duff, and 'a younger man' had been in Romanshorn attempting to spy on Friedrichshafen. Grant Duff had indeed been on holiday in Romanshorn in early November but strongly denied the accusation. The Swiss authorities accepted his innocence; in hindsight it seems far more likely to have been Pemberton Billing and Brock that had aroused suspicions.

21 OCTOBER 1914

Pemberton Billing sets off for Belfort to establish the base for the raid

With Pemberton Billing safely landed on the lake's north shore a short distance from Friedrichshafen, Brock sailed back with the fisherman to ensure the latter would return the following evening. Pemberton Billing remained hidden for the rest of the night.

In the morning he walked into town – now a spy in enemy territory.

Owing to their great size, the various installations that formed the Zeppelin plant were easily located and Pemberton Billing noted their positions on a map. However, he himself was beginning to attract attention – he was a tall man who

habitually wore a monocle. With a noticeable increase in vigilance, Pemberton Billing considered it a good time to disappear. He gained access to an empty house near the Zeppelin works, hoping to hide out until dark, when he would make his way back to the rendezvous at the lake.

Things remained quiet until dusk, but as he was preparing to leave, a car pulled up outside the house and three German officers got out, leaving their driver in the car. The officers approached the house, at which point Pemberton Billing made a quick exit through a window, grabbing a weighty metal lion ornament as a weapon as he passed the mantelpiece. With the officers in the house, he slipped around behind the car and brought the lion down on the head of the unfortunate driver. Dragging the now unconscious man clear, he jumped behind the wheel and sped off. The German officers dashed out just in time to see their car disappear into the gloom. Brock and the fisherman were indeed waiting at the appointed spot; the fugitive Pemberton Billing jumped aboard and they were off, back across the lake to safety. After their breathtaking adventure the two men arrived back in England on 28 October. Pemberton Billing made his report to Sueter, confirming the arrangements made at Belfort and the findings of his mission to Friedrichshafen. This, combined with 'very valuable information of a secret nature' previously obtained 'at much personal risk' by Walter Grant Morden – a businessman of great wealth and lieutenant-colonel in the Canadian armed forces – convinced Sueter to press ahead with the raid.

The team assembles

While the two men were away Sueter had set about organizing the flying personnel for the mission. He gave command to Sqn-Cdr Philip Shepherd. Shepherd had gained his pilot's licence in September 1912 at the Central Flying School, where he had served as an instructor. Second-in-command was Sqn-Cdr Edward Featherstone Briggs. Briggs had arrived in France as part of Samson's Eastchurch squadron and had been actively engaged with aircraft and armoured cars ever since. It was his engineering expertise that marked him down for a place on the mission. Flt-Cdr John Tremayne Babington, a pilot based at Dunkirk, joined the team, as did Flt-Lt Sidney Sippe, a second 'veteran' of Samson's original party. Sippe had worked as a test pilot before the war and was the only one in the group with any practical experience of bombing – gained while briefly based in Antwerp in October. The final pilot, Flt Sub-Lt Roland Portman Cannon, had only qualified as a pilot in May 1914 and received his commission on 11 September. He was to be the extra man in case any of the

Sqn-Cdr Philip A. Shepherd RN. Shepherd passed through the Central Flying School in September 1912, before being posted to the naval wing of the RFC in December 1912; there he attended the airship course. Appointed squadron-commander in April 1913, he returned to the Central Flying School at Upavon as an instructor.

Lt John Tremayne Babington RN (left) was born in 1891 and took the pilot's course at Eastchurch in January 1913. Engineer-Lieutenant Edward Featherstone Briggs RN (in civilian clothes) was born in 1882, qualified as a pilot at Eastchurch in July 1912 and was appointed to 'machinery and overseeing duties'. Samson commented that Briggs often flew loaded with tools and spare parts, adding: 'We used to wonder how his machine ever flew.'

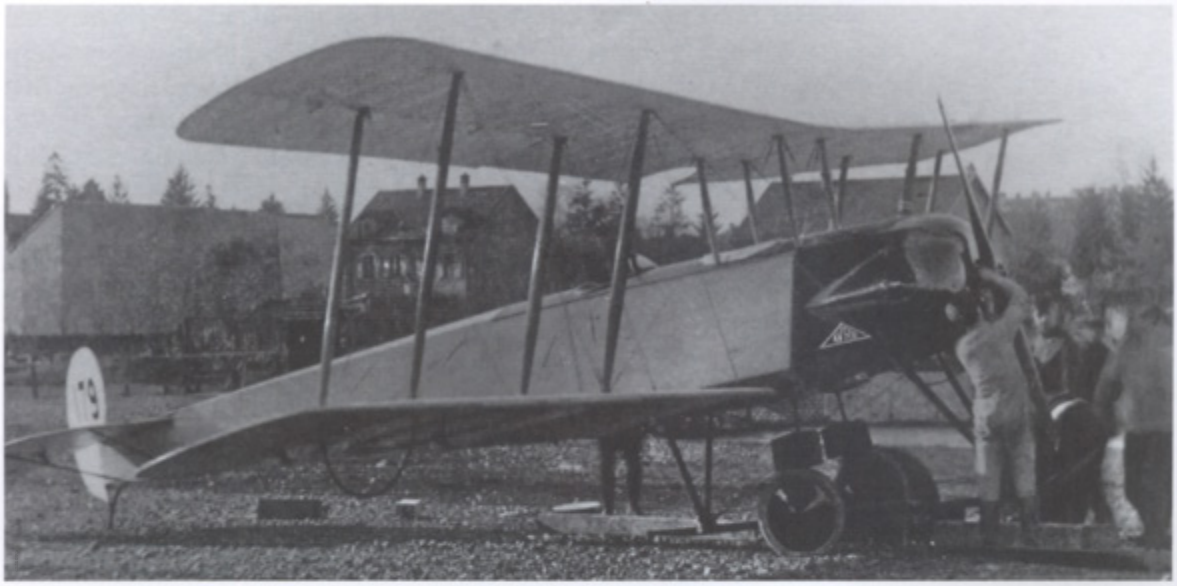
other pilots dropped out through injury or illness. Details of the mission remained secret at this stage, with those selected merely instructed to hold themselves ready for special duties.

The aircraft type selected for the mission was the Avro 504. It had been developed in 1913 by the Manchester-based firm A. V. Roe and Co. Ltd. The Admiralty had ordered a single example which was delivered in September 1914. It bore the naval number 179. The Avro 504 was a two-seater biplane with 36ft equal-span wings and a long, wire-braced box-girder fuselage. Powered by an 80hp Gnome rotary engine, it had a maximum speed of 65mph. Its normal endurance of three hours was not enough for the requirements of the raid, but with the fitting of an additional fuel tank in the forward position and covering over the cockpit, the aircraft seemed perfect for the task. The Admiralty placed a contract for the delivery of six more examples; the first three of these were earmarked to join No. 179 on the Friedrichshafen raid.

Responsibility for the airframes fell to Sqn-Cdr Briggs. The plan was to have the new aircraft packed into crates in Manchester and shipped to France. Briggs was to oversee this process and their re-assembly at their destination. He also worked with a young A. V. Roe designer, Roy Chadwick – who later went on to design the Avro Lancaster bomber – to construct a simple bomb-dropping apparatus for the aircraft. Meanwhile Flt-Cdr Babington visited the stores at Dunkirk, with instructions to select the six most reliable Gnome engines, along with spare parts, and ship them to Southampton to await further instructions. Briggs and Babington also selected five riggers and five mechanics for the mission, to assemble the aircraft and install the engines. All ten men visited the A. V. Roe factory to familiarize themselves with the Avro 504. Chadwick joined the team with responsibility for the bomb frames.

Heading for France

The date of departure from Southampton was set for 10 November. Briggs, Babington, Cannon, the 11-man engineering team, four aircraft in packing crates and a motorcar duly assembled at Southampton docks. They all boarded the SS *Manchester Importer*, a freighter owned by Manchester



Avro 504 No. 179 at Belfort in November 1914. No. 179 was the Admiralty's original 504, delivered in September 1914. Allocated to Sqn-Cdr Shepherd, this machine was intended to lead the raid on Friedrichshafen. Note the stony ground that caused the pilots some concern. (www.Avro504.org)

Liners Ltd, still not knowing their destination. Shepherd and Sippe travelled separately, driving by car to Belfort. Briggs, the second-in-command, only received details of the mission when Pemberton Billing arrived on the quayside in his sports car shortly before the ship departed. Pemberton Billing dashed aboard, handed Briggs various papers and a sack containing 500 gold sovereigns and a quantity of French banknotes, then departed again, choosing to cross to France on the quicker Le Havre steam packet boat. Once in France he joined Sub-Lt Brock, who had finalized the arrangements for a special train to transport the aircraft to Belfort. With the help of a French staff officer, Pemberton Billing then had the train shunted onto the quayside to be ready and waiting when Briggs' party docked. An electricity failure at the docks delayed the unloading process, meaning the heavy crates had to be moved by hand, but by 11.30pm everything was on board, including Pemberton Billing's car, and the train departed.

The train continued all the way to Belfort with just one stop, where Pemberton Billing had his car offloaded and he disappeared, presumably to complete arrangements. He was waiting for the train at Belfort when it finally arrived at 9.30am on 13 November. Reluctant to compromise the secrecy of the mission by having the crates unloaded in daylight, Pemberton Billing had the train shunted to a disused railway siding until nightfall. Once darkness fell a French staff captain assisted in transferring the crates and men to the airfield by road. They moved directly into the airship shed that was to serve as their new home – everyone instructed, on the grounds of secrecy, not to leave the confines of the shed. The move was complete by 11.30pm and, as the men had rested all day, work began at once on assembling the four aircraft. By 3.30am on 14 November Pemberton Billing was able to record that

> All machines were complete in every detail; engines had been tested, bombs shipped, release gear tested, tanks filled.

13 NOVEMBER 1914

9.30am
The raiders arrive at Belfort

All was ready – except for one problem. Shepherd and Sippe had not arrived and there was no news of them. Pemberton Billing made a number of enquiries. Later that evening French staff at Dijon telephoned to advise that two British officers had arrived there and been sent on to Belfort. After an exhausting journey, punctuated by engine troubles and roadblocks, the two finally arrived at 10.30am on 15 November. The weather had been fine for some days, offering perfect conditions for the raid, but in view of the physical condition of Shepherd and Sippe it was decided not to make the attempt that day. The men spent another uncomfortable night in the vast, draughty and cold airship shed. However, the weather that greeted them next morning did not bode well. A stiff breeze had begun to blow from the east, heralding an unwelcome drop in temperature to -7°C.

The waiting game

While the pilots waited for the weather to improve they made a close inspection of the airfield. They found it rough and stony – not a problem for airships, but potentially lethal for aeroplanes. They selected the most suitable strip and removed the larger and more obvious stones. A lull in the weather on 17 November convinced Shepherd that this was an opportune moment to test his aircraft, Avro No. 179, and the cleared strip. Given the secrecy of the operation, no aircraft had left the shed and been fully tested since assembly three days earlier. Now, moments after Shepherd's Avro began to taxi, it suffered a mishap: the left wheel buckled, causing the undercarriage to collapse; this in turn broke the skid on the left wingtip and allowed the propeller to smash into the ground.

It was not an auspicious start.

In fact, Shepherd was now a very sick man. The sudden change in the weather and the hours spent in the cold, damp airship shed, sleeping on concrete floors, had taken its toll on him. Concerned for Shepherd's health, Pemberton Billing broke his rule of secrecy and sent him to a hotel in Belfort. Later that day, while the mechanics quickly carried out repairs to No. 179, the bad weather returned. The other officers pointed out to Pemberton Billing that their continued confinement in the shed could soon affect their health too. Rather than risk cancellation of the raid, the raid leader agreed to transfer all the pilots to the hotel.

The pilots then entered into a dreary routine. They reported to the airfield between 7.30 and 8am each day and remained there until 12.30, at which point, if the weather failed to clear, they abandoned the attempt for the day. Return flying time to Friedrichshafen was estimated at a minimum of 3¾ hours and it was felt it would be too dark to effect a safe landing after 4pm.

During this enforced delay Sqn-Cdr Shepherd's condition deteriorated further. Pemberton Billing now doubted his ability to lead the attack, considering him 'totally unfit to be subjected to the somewhat severe mental and physical strain likely to be occasioned by such a flight'. Pemberton Billing spoke to Briggs, then the two men spoke with Shepherd who eventually agreed that he would not participate in the raid. In his place Sub-Lt Cannon, who had 'considerable experience' on Avros, stepped up as fourth pilot.

When they arrived at the airfield as normal on the morning of Saturday 21 November, an encouraging change in the weather was obvious to all. Although it was still extremely cold, the sky was clear and the wind was now blowing from the west, driving away the clouds over Germany. The raid was on.

Destination Friedrichshafen

Pemberton Billing held a final briefing on the route. It involved a round trip of about 250 miles. It could not be direct as the meanderings of the Swiss border would otherwise leave a proportion of neutral territory in their path. Instead, a dog-leg was required that took the flight through the turbulent air above the mountains of the Black Forest, which extended up to 3,500ft. Pemberton Billing had already briefed the pilots extensively on the layout of the Zeppelin factory and had provided them with maps and sketches. They also carried maps of Germany, but not of France. The French authorities had insisted on this – should enemy bullets or mechanical failure bring the pilots down in Germany, they did not want Belfort incriminated in the raid.

At 9.30am mechanics wheeled the four aircraft from the airship shed and, after final checks, the machines were lined up at the western end of the airfield. Each aircraft fired up its engine and ran it for three minutes before take-off; each take-off was timed at approximately five-minute intervals. First up, at 9.45am, was Sqn-Cdr Briggs in Avro No. 874*, followed at 9.50am by Flt- Cdr Babington in No. 875. Both circled the aerodrome as they climbed to 3,500ft. Third away was Flt-Lt Sippe in No. 873, but Cannon in No. 179 failed to get off the ground due to engine problems. A second attempt also failed and resulted in a broken tailskid. The other three aircraft, all having reached 3,500ft as planned, were now disappearing into the distance, each carrying its cargo of four 20lb Hales bombs. In the circumstances Pemberton Billing told a dispirited Cannon to abort the mission.

A historic photograph of the three aircraft that attacked Friedrichshafen on the morning of 21 November. Here they have just been wheeled from the airship shed at Belfort; from left to right are No. 873 (Sippe), No. 875 (Babington) and No. 874 (Briggs).

* Strangely, in the official transcriptions of the pilots' reports, Briggs is recorded as flying No. 873 and Sippe No. 874. This has filtered down into all subsequent published accounts of the raid. However, German photographs of Briggs' captured aircraft make it clear that he flew No. 874. Also, in a letter written on 4 February 1915, Flt-Lt Harold Rosher wrote: 'Am enclosing a photo of my machine 873. I think I told you it was the one Sippe used on his raid.'

21 NOVEMBER 1914

9.30am Friedrichshafen raid commences

Meanwhile, in Friedrichshafen the Zeppelin works were a hive of activity. An order placed earlier that year for the construction of ten 'M-Class' Zeppelins meant the facility had been working at full capacity for some time, with two shifts each of 500 men keeping production moving fast.

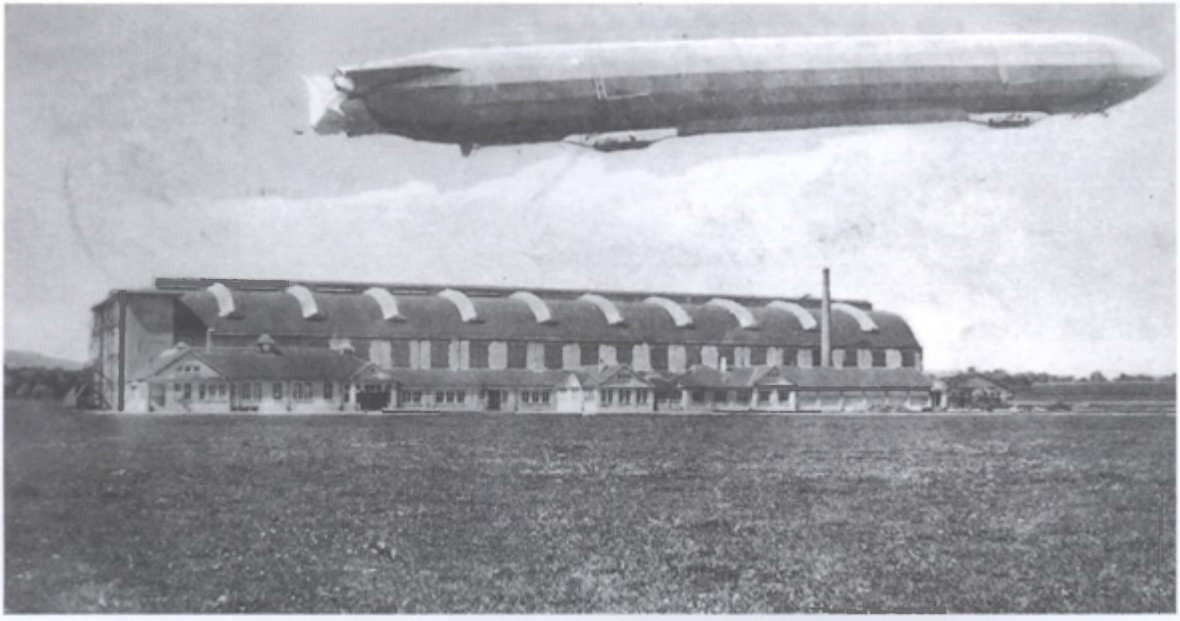
Count Zeppelin had in 1909 moved his works from a cramped location at Manzell on the shore of Lake Constance to a new site about 3km away on the northern edge of Friedrichshafen. The first construction facility, opened in September 1909, came to be known as the 'Ring Shed'. Demand grew for bigger and improved Zeppelins, and to facilitate their construction a new, larger 'Factory Shed' was built next to the Ring Shed in 1914.

In November 1914 the latest Zeppelin, the Imperial Navy's *L.7*, was nearing completion in the Ring Shed. Constructed as a typical 'M-Class', it was 518ft long and had a diameter of 48.5ft. On 20 November the factory workers began filling *L.7* with 794,500ft^3 of highly inflammable hydrogen lifting gas and began making final preparations for the airship's trial flight, scheduled for the following day. For the British, the timing of the raid was perfect: *L.7* was a bomb primed for detonation.

In the absence of any maps of France, both Babington and Sippe recorded that they initially set course towards Basle on the Rhine, which offered a clearly visible landmark a little to the south of Pemberton Billing's prescribed route. The pilots made sure they passed to the north of Basle so as to avoid overflying Swiss territory – and hoped that if they managed to find Basle again on their return flight they could follow their outward course back to Belfort. On this first leg of the journey the three pilots managed to remain in fairly close company, with Briggs ahead of and flying further to the south than Babington and Sippe. They reached the Rhine between 10.20am and 10.25am. Observers at Lörrach, about six miles north-east of Basle, spotted the aircraft heading east; this information was immediately telephoned to Friedrichshafen. Clouds still clung to the Rhine valley, forcing the pilots to climb to heights of between 4,000ft and 5,000ft.Babington gradually fell behind, his engine struggling to maintain full power. At about 11am Sippe noted that Briggs, who had been far off to the south, crossed in front of him to a position to Sippe's north side about a mile ahead. This move may have been a conscious effort by Briggs to bypass Schaffhausen – a promontory of neutral Swiss territory that juts some seven miles into Germany onto the north bank of the Rhine. However, Briggs' correction was probably not large enough. It seems that neither Sippe nor Babington followed this adjustment, as both mention in their reports that they flew over the territory as they continued to follow the Rhine. Over Schaffhausen Sippe finally lost sight of Briggs and noted that Babington was trailing about two miles behind. Babington recorded that at 11.30am he was flying above clouds between Schaffhausen and Constance when he observed Sippe 'about 3 miles ahead and entering clouds'; at this point Sippe disappeared from view. Babington was now alone in the rear.

The attack on the Zeppelin works

Over Lake Constance the clouds had disappeared, revealing a bright, sunny, crisp autumn day. At the Zeppelin works the staff had been on lunch break



The original shed at the Friedrichshafen Zeppelin works, completed in September 1909 and later known as the Ring Shed. The latest Zeppelin, *L.7*, was inside during the raid, preparing for its first trial flight.

when a telephone call from Constance, about 17 miles west of Friedrichshafen across the lake, confirmed the earlier sighting from Lörrach of unidentified aircraft. The *Landsturm* troops guarding the works were put on alert and the crews of the three Krupp anti-aircraft guns and two machine guns defending the factory set to their weapons. The designated commander of Zeppelin *L.7*, *Oberleutnant zur See* Werner Peterson, was already in Friedrichshafen to take command of his new airship once it had passed its trials. He received a phone call at his hotel in the town advising him of the news and he immediately set out for the works. As he made his way through the town the guns burst into action. Looking up in the sky, Peterson saw Briggs in Avro No. 874

> heading for the Zeppelin buildings from the lake at an altitude of several hundred metres. The shell bursts from the anti-aircraft guns lay very close to him. Meanwhile the plane flew over me and dropped the first bomb, which was easily visible while falling. It hit a house and exploded (about 60 metres from me) and partly destroyed the upper storey (1 dead and 2 injured).

A German press account described how

> the *Landsturm* men posted on guard opened a heavy fire on the descending aeroplane, while the machine-guns made a noise which echoed and re-echoed over the lake.

The man killed was Heinrich Wiedmann, a 21-year-old tailor's assistant from Switzerland. He was on his way back to work when the bomb hit the house in Bachstraße. He died instantly when a shrapnel fragment penetrated his heart. The two people injured in the house were Frau Deschler, a train-driver's wife who sustained serious injuries to her head and shoulder, and Fräulein Magg, who lost her lower left arm.

Sqn-Cdr Briggs begins his attack on the Friedrichshafen Zeppelin works. Briggs made the first attack of the raid and one of his bombs landed just a few feet short of the two sheds, causing minor damage to the doors of the new factory shed.

Peterson continued to watch helplessly as Briggs descended to about 450ft and released two more bombs as he approached the two great sheds. The German officer reported that Briggs

> skilfully dropped a bomb which, however, merely landed on the field, then another which was accurately aimed and hit between the two sheds (minor damage to the doors of the new shed).

But then Briggs' luck ran out. The ferocious fusillade he had flown into had damaged his aircraft. With fuel gushing from his petrol tank, 'he glided down in a turn, making an emergency landing in front of the sheds'. His right wheel buckled as he hit the ground. An account published in the German press and repeated in *The Times* takes up the story as Briggs sat in his cockpit, dazed from a headwound.

> The troops and the workmen rushed at the aeroplane. The airman sat motionless in his seat, and when the workmen came close fired one revolver shot at them, which,

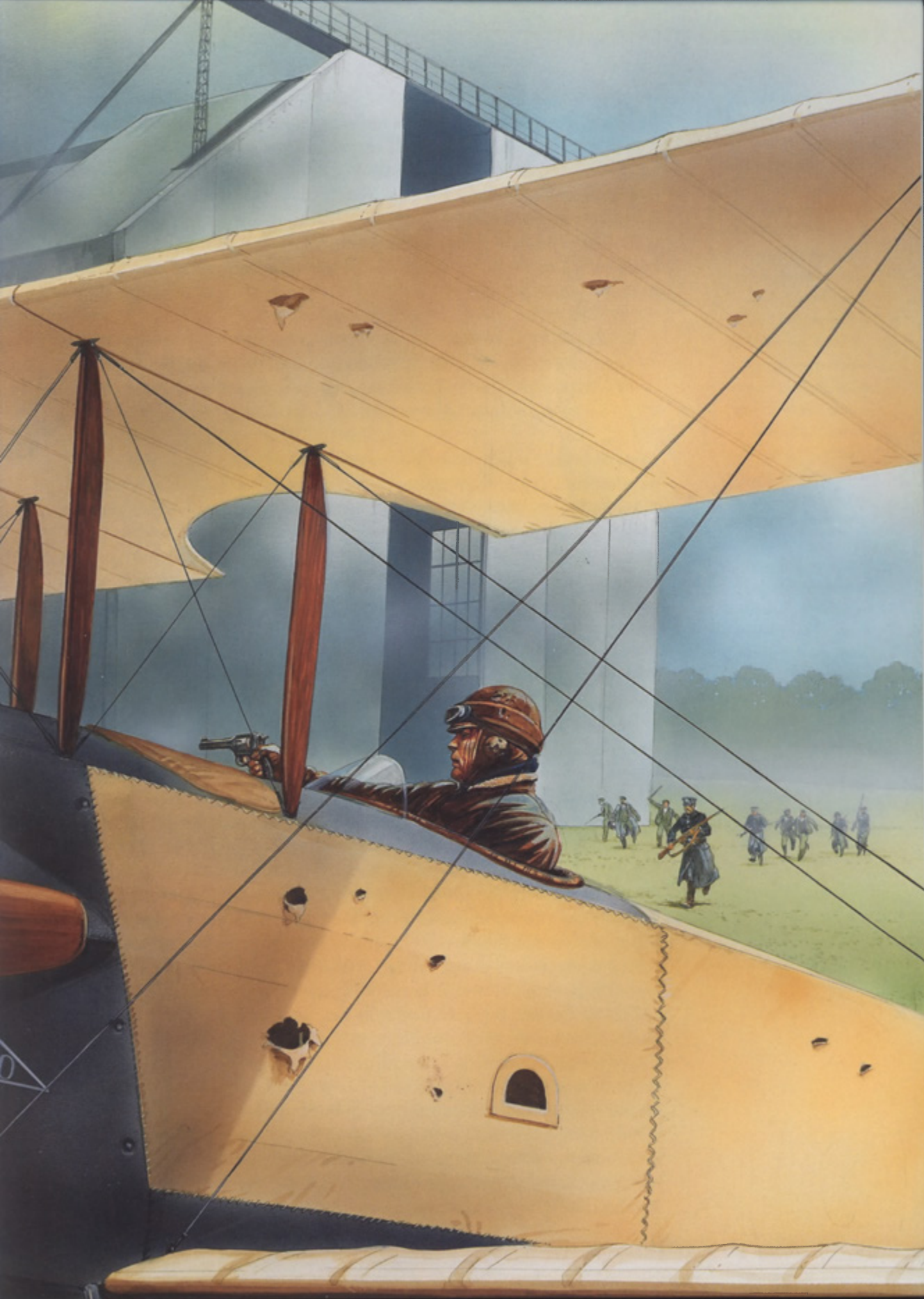
however, missed. Then he remained sitting like a pillar, and waited till he was pulled out of his machine.

Briggs' own account states that while in the air he received 'a light grazing shot, causing a slight wound over the right ear, which bled'. He went on to say that when he landed a German soldier fired five shots at him, but missed. Then he was pulled from the cockpit and, while his head was bent forward, received a 'heavy blow on the crown of my head', which he believed was administered by a rifle butt. Briggs goes on to say that he was led away between two soldiers while an angry crowd of factory workers gathered. Briggs later learned that a German officer stood between him and the crowd and threatened to shoot anyone who laid their hands on him. Peterson later had a chance to inspect the damaged Avro 504 and noted 'a decisive hit by a shell splinter' and hits 'by about 10 bullets (one of them in the fuel tank)'.

Sippe's attack

While Briggs had been preparing to start his attack, Sippe in Avro No. 873, having disappeared from Babington's view, had descended to the extreme west end of Lake Constance. To lessen his chances of detection he chose to skim daringly over the surface of the lake – estimating his height at just 10ft. He continued at low altitude as he passed the town of Constance. He turned to follow the north shore until he was about five miles from Friedrichshafen; then he started to climb to 1,200ft. To the north of the town he observed '12 or 14 shrapnels bursting', which he correctly surmised signified that Briggs had reached the target.

Sidney Sippe, while briefly based at Antwerp in October, was one of ten pilots who 'flew at low altitudes over the German lines...to drop bombs to assist the defence at critical moments'. Sippe learnt to fly as a civilian in 1912 and worked extensively as a test pilot. He had been a 'special reserve' officer in the RFC Military Wing, but resigned in November 1913 to join



PREVIOUS PAGES:
Friedrichshafen – 21 November 1914. Having led the attack against the Zeppelin Works, Squadron Commander Briggs' aircraft, Avro 504 No. 874, took a critical hit and landed close to the two sheds that had been his target. In an account recorded by his captors Briggs described how 'Immediately after the landing a German soldier...fired five times at me, but did not hit me; I then lifted up my hands, and several persons, both civilian and military, came up to me as I sat strapped in the biplane. I was...dragged out... I was placed between two soldiers, who held me by each arm. At my back there was an excited crowd, who apparently wanted to rush me.' Briggs was led away and later learned that he only avoided a severe beating by the actions of a German officer who faced the angry crowd 'and threatened to shoot anyone who would lay hands on me'.

Sippe continued at this height until he was about half a mile from Friedrichshafen, at which point he began to dive down to 700ft. He noted the time as 11.55am. Then he flew inland, over the hydrogen works. At this point he encountered a 'very heavy fire' and observed a large number of men – he estimated 300–500 – to the right of the sheds, at the point where Briggs had landed. He dropped his first bomb 'in enclosure to put gunners off aim', then, as he approached the sheds he released two more; however, his fourth and last bomb failed to drop. On the ground Peterson continued to watch with a professional eye as Sippe

> dived low in the heavy fire, and above the downed machine released 2 bombs which exploded in the field. Then he flew very fast above the sheds and dropped a bomb which caused damage to the workshops and damaged a window of the shed in which *L.7* lay: 20 metres farther and the inflated ship would have been destroyed.

Sippe could not realize how close he had come to destroying *L.7*. However, his more pressing concern at that moment was the fourth bomb, still caught up in the frame. Having passed the sheds Sippe continued to fly north until out of range of the guns; then he turned back towards the lake. He attempted to drop the bomb on the old floating Zeppelin shed at Manzell, but again the weapon stuck firm. Two machine guns opened fire on him and as there was nothing more Sippe could do, he 'dived down to the surface of the lake and made good my escape'.

Babington's attack

Babington was the last to arrive over Lake Constance. He maintained his height. He was flying Avro No. 875 at about 4,000ft when he sighted the Zeppelin works at 11.47am and noticed shrapnel bursts over them at heights between 3,000ft and 3,500ft. Later, when level with the floating Zeppelin shed, he noticed Sippe escaping low over the lake. Then, as he turned to make his attack, the gunners on the ground spotted him too and opened up. Babington recorded happily that the shrapnel burst to his right side but about 1,000ft below. He had already decided to make his attack on the works with the sun directly behind him so as to make things more difficult for those aiming to bring him down. As he manoeuvred into position he noted that the shrapnel was now bursting behind him. These final actions seemed to take an age. However, finally he felt he was in just the right position between the Zeppelin sheds and the sun, so he banked steeply to the left, beginning what he described as a 'very steep descent in slight curve over sheds', with the engine roaring. He was now the sole target for all available anti-aircraft guns, machine guns and rifles on the ground. A relieved Babington later recalled that the speed of his descent appeared to make it difficult for the gunners to find their target, with most shells bursting too high, and in the initial part of his attack no shell passed within 100ft. In spite of the mayhem all around he still managed to notice how similar the layout of the buildings was to what had been marked on Pemberton Billing's maps. He also noticed that 'considerable panic was

prevalent amongst the workmen and others employed at the factory, and men were everywhere running in all directions'. At 950ft Babington pulled the first two toggles and released two 20lb bombs.

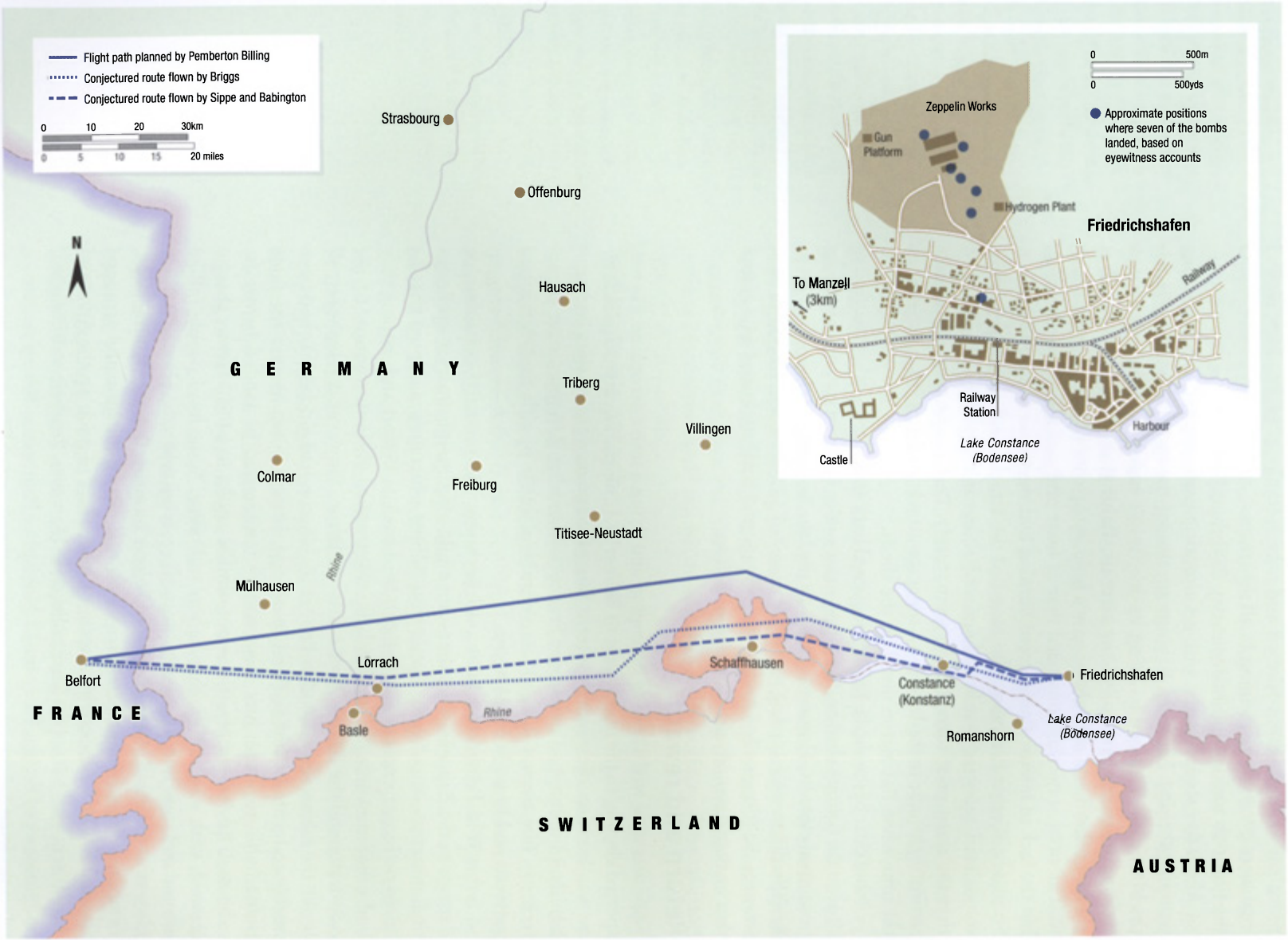
About five seconds later, with his aircraft 'nearly vertical' and adrenaline pumping through his body, Babington released the last two bombs. He felt the blast as he strained to bring up his Avro's nose. Even though he was fighting to regain control of the aircraft, Babington managed to catch a glimpse behind and thought he saw a hole in the roof of one of the sheds as well as smoke; he was convinced that at least one bomb had struck home, but the lack of intense flames from burning hydrogen was a disappointment. Strangely, Werner Peterson, who recorded the attacks by Briggs and Sippe in some detail, reported that he did not see Babington's attack; he simply stated that the third pilot turned back prematurely. Perhaps he mistook Sippe's return flight across the lake for a separate attack and was taking shelter at the time when Babington dived on the sheds.

Now clear of the sheds, Babington turned back towards the lake. On passing close to the floating shed he, like Sippe, came under fire from two machine guns positioned close by. However, once over the lake he began to climb back up to 4,000ft, diligently recording that firing ceased at 12.08pm, and set course back towards the Rhine valley. An hour later he spotted Basle again and set a course that he hoped would take him back to Belfort.

Return and reward

Sippe was now well ahead of Babington and flying a faster aeroplane. He was spotted circling to the north-west of Belfort at 1.30pm. Twenty minutes later he was back on the ground, after a fine piece of navigation that had seen him fly 14 unmapped miles over France and another 236 miles over enemy territory. His aircraft showed 'considerable damage by rifle fire', but it had survived and brought Sippe home.

Sippe told Pemberton Billing all he knew. He reported considerable damage to the Zeppelin workshops but could offer no information on Briggs or Babington. At 3.30pm, Pemberton Billing reluctantly accepted that he could no longer expect either pilot to land back at Belfort and, hoping they had come down in Switzerland, he telegraphed the information to the Admiralty and the British Ambassador in Berne. However, a telephone call broke the melancholy mood at Belfort: Babington had landed. He had been unable to locate Belfort without maps and, having flown around for some time unable to locate any recognizable landmarks, he landed before he exhausted his fuel supply. It was not until he spoke to a local farmer that he learned, with much relief, that he was in France. Some local people rallied around and took him to a nearby post office, from where he phoned Belfort. He was near Vesoul, 48 miles west of Belfort by road. Delighted at the news, Pemberton Billing immediately sent a car to collect Babington and arranged to send Sub-Lt Cannon with a team of mechanics to pack up the Avro and have it sent into Vesoul for later collection. However, Pemberton Billing still had no news of Briggs. Early on 22 November Pemberton Billing received a telegram from Sueter:


Flight path planned by Pemberton Billing
Conjectured route flown by Briggs
Conjectured route flown by Sippe and Babington
0 10 20 30km
0 5 10 15 20 miles
N
Strasbourg
Offenburg
Hausach
Triberg
Villingen
Colmar
Freiburg
Titisee-Neustadt
Mülhausen
Rhine
Belfort
Lorrach
Basle
Rhine
Schaffhausen
Constance (Konstanz)
Friedrichshafen
Romanshorn
Lake Constance (Bodensee)
GERMANY
FRANCE
SWITZERLAND
AUSTRIA
0 500m
0 500yds
Approximate positions where seven of the bombs landed, based on eyewitness accounts
Zeppelin Works
Gun Platform
Hydrogen Plant
Friedrichshafen
To Manzell (3km)
Railway
Railway Station
Harbour
Castle
Lake Constance (Bodensee)

> Congratulations; splendid work. Wire news of Briggs, and do all you can to get in touch with him. Spare no expense in search.

Opposite:
The Friedrichshafen raid.

Later that morning a delegation of French officers arrived at Belfort. The men were assembled in the cold and draughty airship shed and a formal presentation took place to bestow on both Sippe and Babington the cross of the *Légion d'honneur* – France's highest award.

A message from Gen Joseph Joffre, commander-in-chief of the French Army, confirmed that Briggs would also receive the award at the first opportunity.

Later that day Pemberton Billing received news from London. With much relief he heard that the Admiralty had learned, through Dutch sources, that Briggs was alive but wounded and in a German hospital. The same telegram also ordered Pemberton Billing to pack up all aircraft and equipment and return as soon as convenient.

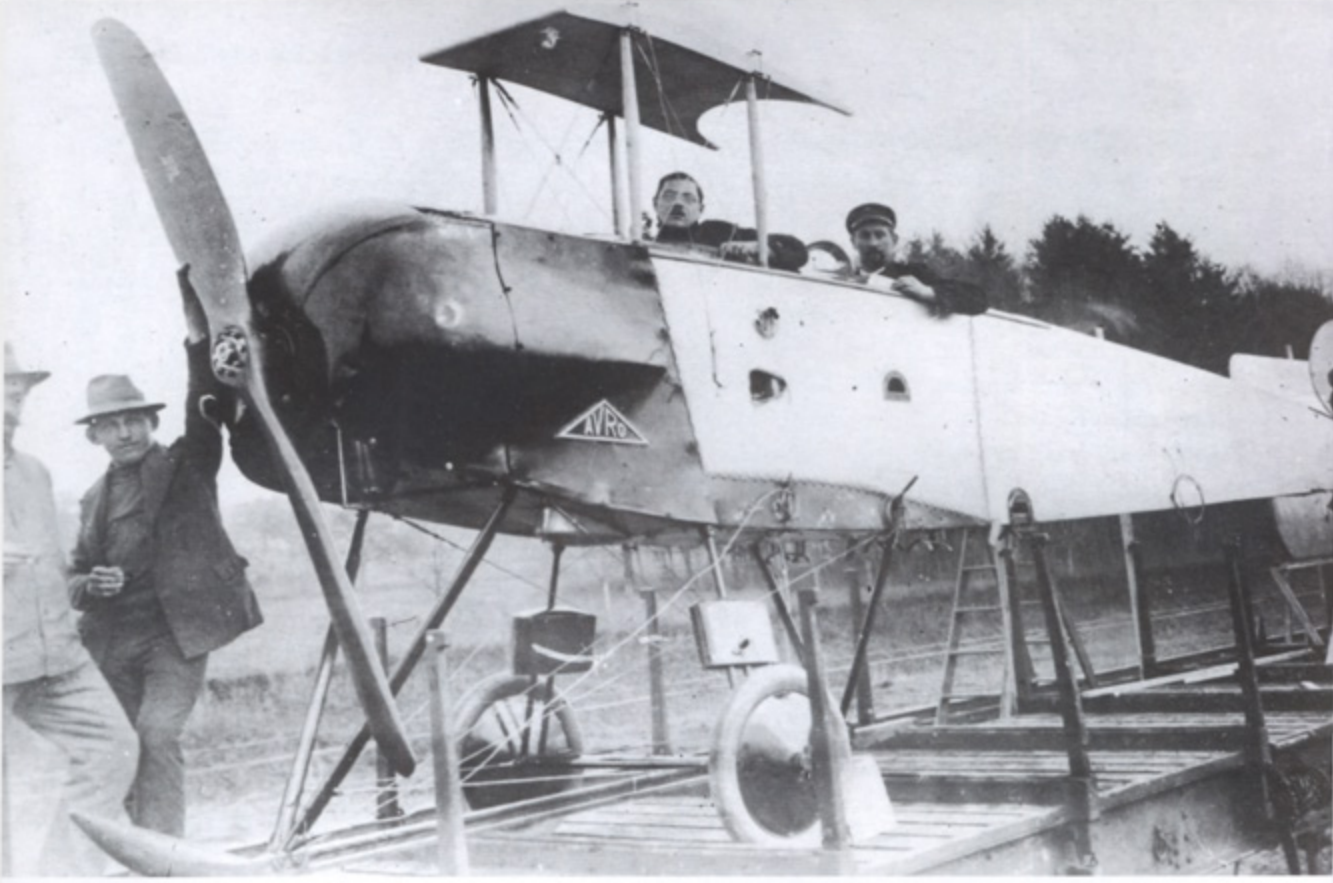
Before departure all possible sources of information were explored. In summary, Pemberton Billing 'confidently assumed' that damage caused by the raid included 'the complete destruction of one Zeppelin and serious damage to the larger hangar, and also demolition of the hydrogen producing plant'. However, a German account published following the raid stated that the latest Zeppelin, *L.7*, 'has not been touched and is ready for warfare'.

It was true. In spite of the allies' insistence, *L.7* was undamaged, and on 23 November, two days after the raid, it emerged from the Ring Shed for its delayed trial flight over Lake Constance. With Werner Peterson now in command, *L.7* received its commission the following day and departed for its new base at Leipzig. Three days earlier it had been just 60ft from disaster. And in reality the damage to the Zeppelin factory had been light and was quickly repaired.

A Swiss correspondent for the French newspaper *Matin* reported that:

> One [bomb] fell on the Zeppelin factory, making a hole in the glass roof 6ft wide. All the windows were shattered, and the inside of the building was thrown into disorder ... Two bombs fell beside the building, making large holes in the ground. Another destroyed the roof of a house some hundred yards away from the factory. Another fell in a lane wrecking two buildings. The staff of the factory were having dinner when the attack was made and nobody was hurt.

On the morning of 22 November Gen Thévenet, commander of the Belfort fortress, arrived to present Babington and Sippe with the cross of the *Légion d'honneur*. The tall man talking to the general is Pemberton Billing, Sippe stands partly hidden behind him and Babington is between Pemberton Billing and the general.



Avro 504 No. 874, flown by Briggs at Friedrichshafen. After being captured in the raid it was sent by train to Aldershof near Berlin for evaluation. The photo shows it loaded for transport with the wings removed; they are stored on the truck behind. No. 874 went on public exhibition and later saw service in German colours as a training aircraft. (Collection Reinhard Zankl)

On 1 December another account of the raid, given by a Swiss engineer who had been at a hotel in Friedrichshafen, was published. A newspaper article based on the engineer's account claimed he witnessed

> nine bombs which fell in an area of 700 square yards round the Zeppelin works and sheds...the earth and debris were thrown up to a height of 25 feet.
>
> Two bombs fell on the sheds themselves... The bombs made the town tremble, and the military officers lost their heads and gave contradictory orders to the troops.

While there was actually admiration for the intrepidness of British pilots on the part of many German military officers present, there were also great concerns. Werner Peterson wrote that when Briggs and his Avro were searched, 'good and accurate maps and sketches' were discovered which convinced all concerned that espionage had been involved.

The German authorities ordered the removal of all directors of the Zeppelin company to Stuttgart for questioning, with a close inspection of their papers. The authorities believed one must have supplied information to the allies. However, the search proved fruitless.

After questioning, Briggs was admitted to the Weingarten hospital in Friedrichshafen where he received the best of treatment. Fully recovered, he became a prisoner-of-war but eventually managed to make good his escape to England, in April 1917.

Homeward bound

23 NOVEMBER 1914

The raiders withdraw from Belfort

On the morning of 23 November Belfort buzzed with activity as the British party prepared for its departure and bade farewell to its French hosts. Shepherd and Babington left in one car, Pemberton Billing, Sippe and Cannon in another, while the riggers and fitters boarded the train that had brought them there ten days earlier. Avros 179 and 873 were on board while 875 was collected from Vesoul en route. Pemberton Billing, whose driving and love of speed often raised eyebrows, managed to lose control of his car on an icy road near Chaumont, about 180 miles from Belfort, and wrapped it around a tree. Sippe and Cannon were fine while Pemberton Billing sustained minor injuries. After being towed into Chaumont, the party awaited the arrival of the train from Belmont and rejoined the rest of the group on the uneventful final leg of the journey. On 26 November all were back on British soil, and Pemberton Billing headed directly to London to make his report to the Admiralty. Three days earlier Winston Churchill had advised Parliament of the deeds of the RNAS pilots, to great acclaim. Churchill concluded:

> This flight of 250 miles, which penetrated 150 miles into Germany, across mountainous country, in difficult weather conditions, constitutes with the attack a fine feat of arms.

The British press gave wide coverage to the daring attack and repeated the claim that a Zeppelin had been destroyed. French periodicals also applauded the raid. One magazine, *L'Aérophile*, described it as 'one of the most magnificent feats of arms performed during the war'.

The British government announced the award of DSOs to Briggs, Babington and Sippe on 1 January 1915, but Pemberton Billing received no official recognition. However, Sueter did not forget his important contribution; he later wrote:

> I place it on record that the Naval Air Service owes much to [Pemberton Billing] for his valuable help in his intelligence work before the attack, and for the attention he gave to every detail of transport work to enable the pilots to achieve their success.

There now only remained the issue of whether the British pilots had flown over neutral Swiss territory. An official communication from the Swiss Federal Council asked the British government's view of the reported incident. After some deliberation the Foreign Office issued a carefully worded response:

> In view of the proofs advanced by the Federal Council...the British Government gives the assurance that the aviators acted contrary to its intentions and expresses its deep regret.

Reports suggest that Churchill's private and rather less diplomatic response was 'tell the Swiss to go and milk their cows'.

THE CUXHAVEN RAID

Seaplanes to the fore

Since losing Antwerp as an operational base, Churchill continued to seek further opportunities to strike at the Zeppelin sheds. On 22 October 1914, while planning for the strike against Friedrichshafen was still in its early stages, he chaired a meeting of senior naval officers. Amongst those present was Commodore Reginald Tyrwhitt, commander of the Harwich Force – a naval squadron operating in the southern half of the North Sea. By the conclusion of this meeting a plan had been drawn up for an air strike against a Zeppelin base near Cuxhaven, on Germany's North Sea coast. Cuxhaven was beyond the range of land-based RNAS aircraft, so the task fell to RNAS seaplanes. Tyrwhitt was responsible for delivering the aircraft safely to a point from which they could launch the attack.

The world's first seaplane – an aeroplane that could take off from and land on water – flew in March 1910. Britain's first seaplane followed a year later (the term 'seaplane' was in fact coined by Churchill, who disliked the term 'hydro-aeroplane' which was then in vogue). In 1913 the Admiralty refitted the old cruiser HMS *Hermes* as an experimental seaplane carrier. When war broke out in August 1914 this was the only vessel available with a potential for aviation use; unfortunately, a torpedo strike in October 1914 cut its career short while it was ferrying aircraft to France.

However, on 11 August 1914 the Admiralty had acquired three cross-Channel ferries owned by the South Eastern & Chatham Railway Company: *Engadine*, *Riviera* and *Empress*. All were about 316ft long with a maximum speed of some 21 knots. A week later work began at Chatham on converting *Engadine* and *Riviera* into seaplane carriers. The work included the erection of canvas hangars fore and aft to shelter three seaplanes from the elements, the installation of booms for hoisting the aircraft over the side, and the addition of guns for self-defence. By the end of the first week of September both vessels were ready for service in their new guise. Initially *Empress* served as a transport and supply vessel – on 27 August it transported the vehicles and stores of Samson's Eastchurch

squadron to Ostend – but its own conversion to a seaplane carrier followed in September.

Seaplane carriers differed from later aircraft carriers, which launched aircraft from the flight deck. The purpose of a seaplane carrier was to transport the aircraft to the area of operations, then to lower aircraft to the sea to allow take-off. When the seaplane returned it would land close to the carrier and be hoisted aboard and stowed. Loading and unloading was a protracted process, during which time the ship remained stationary and vulnerable to attack. Even once the seaplane was afloat there was no guarantee it could take off: rough seas, strong winds and rain could all prevent the aircraft taking to the sky, while a dead-calm sea presented its own problems as the seaplane's engine could struggle to generate enough power to break the surface tension that held the floats on the water. Despite all these obstacles, Great Britain led the way in this area of naval aviation.

Commodore Reginald Yorke Tyrwhitt (1870–1951), the highly respected commander of Harwich Force, led the Cuxhaven raid. Tyrwhitt joined the Royal Navy as a cadet in 1883; he was promoted to lieutenant in 1892, commander in 1903, captain in 1908 and commodore in 1914.

The first attempt to launch seaplanes against Cuxhaven took place on 24 October 1914, just two days after the planning meeting. Harwich Force steamed into the North Sea, heading for a position near the tiny German island of Heligoland, but fog and torrential rain made the enterprise impossible. Wild autumnal storms over the North Sea caused the early cancellation of two more attempts. Not until late November did the Zeppelin base at Cuxhaven again feature in Admiralty plans, but this time only in a subsidiary role.

Naval intelligence had revealed a significant concentration of German warships in the Weser and Elbe rivers and the wide dispersal of German submarines to Shetland and the English Channel. The Admiralty concluded that by launching the raid against Cuxhaven, the Harwich Force moving into Heligoland Bight could act as bait to draw out the German High Seas Fleet. If the fleet took the bait, Admiral John Jellicoe's Grand Fleet could strike. The Grand Fleet began to move on 22 November and the Harwich Force set out the next morning, but that night Jellicoe, in overall command, cancelled the aerial strike and ordered the carriers back to port. The ruse continued but failed to lure the German fleet out. The next attempt took place a month later; this time the RNAS seaplanes pressed home their attack.

HMS *Riviera* – one of the three Channel ferries requisitioned by the Admiralty in August 1914 for refitting as seaplane carriers. *Riviera* carried a Short Type 74 and two Type 135 seaplanes on the Cuxhaven raid. (Imperial War Museum SP 1927)

Plan Y

The plan was similar to the one which had failed in November: the Grand Fleet would again provide support, but this time Commodore Roger Keyes' Eighth Submarine Flotilla would provide a defensive shield for Harwich Force. The date for the operation was set well in advance, in the hope that the weather would prove suitable on the day. The date selected was 25 December 1914 – Christmas Day. The attack was codenamed 'Plan Y'.

Commodore Tyrwhitt issued detailed orders to Harwich Force and the three seaplane carriers it was to escort as early as 2 December. The orders indicated formations, speeds and rendezvous points as well as launch and pick-up points for the seaplanes. A few days later, on 7 December, Keyes issued orders for his submarine flotilla. The ten submarines were to be despatched in pairs in advance of Harwich Force to take up specific positions, with orders to attack any vessel that attempted to engage the squadron, and to pick up any pilots of seaplanes forced down. In addition, submarines were to tow any ditched seaplanes back to the carriers; if this was impossible, they should sink the seaplane by puncturing its floats. On 18 December Murray Sueter, as director of the Admiralty's Air Department, issued his orders for the 'Air Attack on Cuxhaven Airship Sheds by Seaplanes'. Although still referring to Cuxhaven, the orders showed that it was understood that the airship sheds were actually inland of the coastal town.

The orders opened as follows:

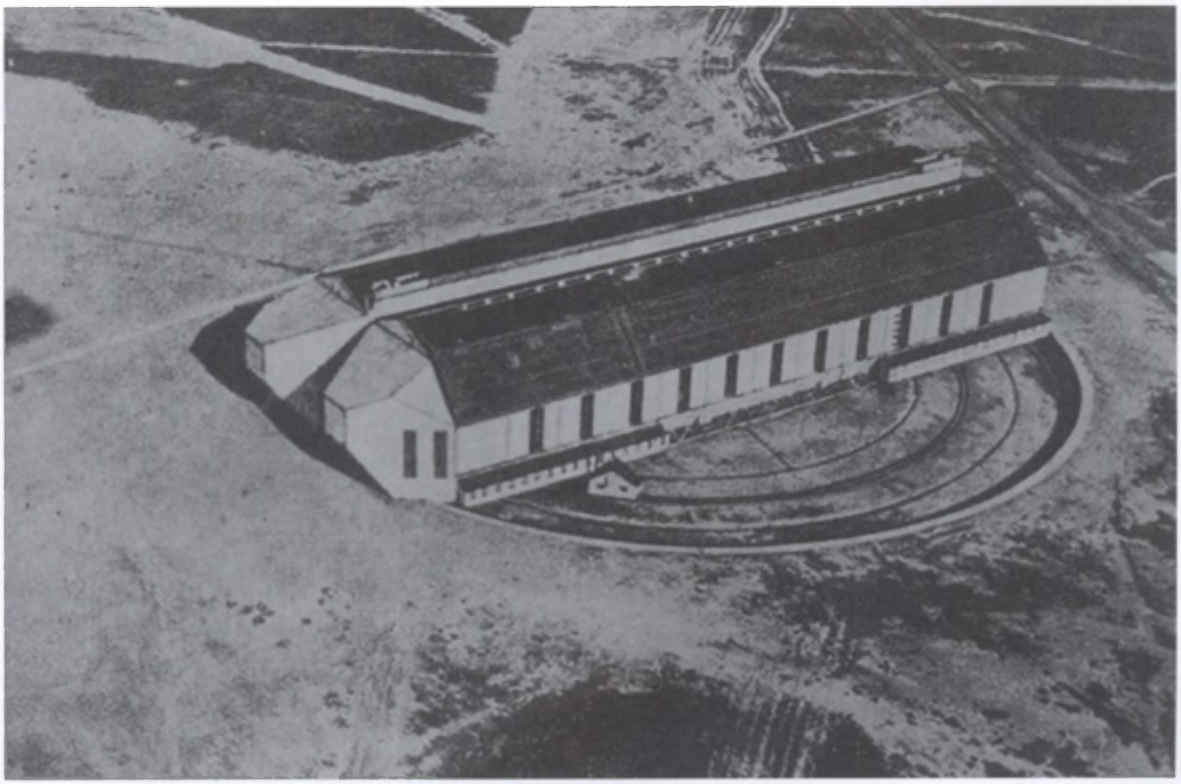
> It is known that one airship shed has been built at Cuxhaven, 10 miles inland; recent report states that four Zeppelins are now at this place, so probably the station has been added to.

Intelligence informed those taking part that the Zeppelin sheds were near the village of Cappel, about ten miles south-west of Cuxhaven.

But there was still only one shed to locate at this time, housing two Zeppelins – and that was not at Cappel, although it was close. The airship base referred to by the Admiralty as being inland of Cuxhaven was sited about eight miles away, near the village of Nordholz. It was not a beautiful spot. One Zeppelin commander based there in 1914 described Nordholz as 'the most God-forsaken – one might almost say the most man-forsaken – hole on earth'. Construction of the navy's airship shed began in April 1913; it proved to be the most advanced type built during the war. It was in fact a double shed, with accommodation for two Zeppelins. The feature that made the structure unique was the vast turntable on which the whole 4,000-ton assemblage sat. This allowed rotation of the shed to avoid dangerous winds blowing across the entrance when airships were manhandled in and out. A persistent crosswind could prevent a Zeppelin emerging from a fixed shed for days at a time. However, plans to build other sheds of this type came to nothing during the war due to the cost and length of time they took to construct. The first half of the double shed was ready in August 1914, the second half in November. This first Nordholz shed was named 'Hertha'; later, in 1915, when all German sheds were renamed using the first letter of the base's name, 'Hertha' became 'Nobel'. By the end of the war five other sheds had been added at Nordholz. Hertha was 597ft long and 98ft high, with each berth being just over 114ft wide.

Sueter's orders confirmed that each of the three carriers would carry three aircraft and specified their missions. Each seaplane was to be armed with three 20lb Hales bombs. He added, with reference to Marix's successful attack on

The revolving Zeppelin shed at Nordholz, the target in the Cuxhaven raid. In 1914 the shed measured 597ft long. This photo shows it later in the war, after the addition of pointed extensions to allow the accommodation of larger Zeppelins; this increased the overall length to 656ft.



Düsseldorf, 'it having been proved that one of these bombs will destroy a Zeppelin in a shed'. All aircraft were to

> drop their bombs on the Cuxhaven sheds. Should the sheds not be found they are to attack the enemy's ships or any positions of military importance and endeavour to destroy them.

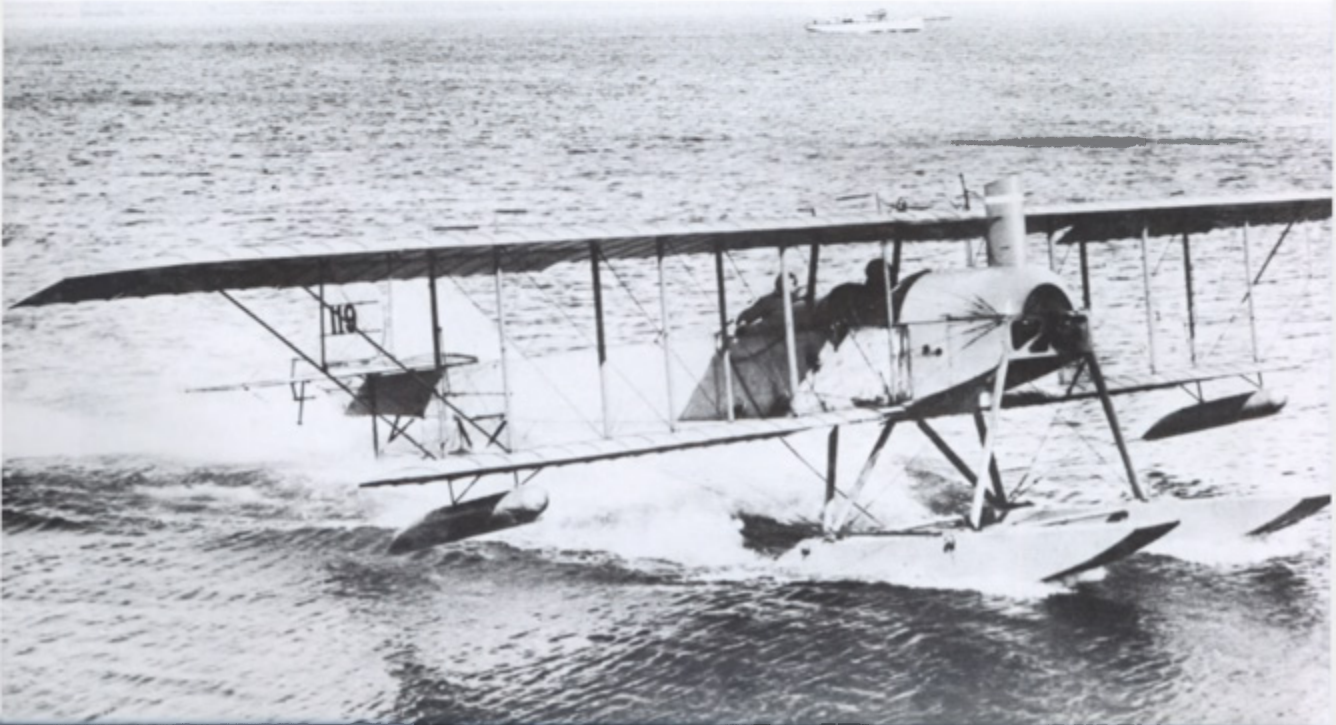
The orders then added secondary goals. Before returning, the seaplanes from HMS *Engadine* were to count the German ships anchored in Wilhelmshaven harbour, those of HMS *Riviera* were to do likewise with the ships lying off the mouth of the Elbe and HMS *Empress*'s seaplanes were to complete the inventory with the ships anchored in Schillig Roads. The tasks were beginning to mount.

Three days later, on 21 December, the commander of the three seaplane carriers, Sqn-Cdr Cecil L'Estrange Malone RNAS – who was also captain of HMS *Engadine* and had overall command of the nine aircraft – issued his orders. Malone had been an early pioneer of naval aviation although in 1914 he was, remarkably, still just 24 years old. In his orders to the pilots he added yet more intelligence-gathering tasks requested by the Admiralty. However, he reiterated that 'the primary objective is to be the destruction of the airship sheds at Cuxhaven'.

The men and their aircraft

The firm of Short Brothers was a leading designer and manufacturer of seaplanes for the Admiralty, and it was three Short models that were selected for the raid: the Folder, the Type 74 and the Type 135.

The Short Folder made its debut in 1913. Powered by a 160hp Gnome rotary engine, the Folder earned its name from its wing arrangement: utilizing



Short Folder No. 119, allocated to HMS *Engadine* and piloted by Flt-Cdr Robert Ross. Ross experienced problems with his fuel supply throughout the raid. At one point he set down to clear the problem, then had to outrun a German trawler on the surface. (Imperial War Museum MH 2894)

a simple but robust hinge system, the wing could be folded backwards, making it easier to stow the aircraft aboard ship. The system, designed and patented in 1912 by Horace Short, one of the Short brothers, reduced the 67ft wingspan to just 12ft when folded. The Folder could attain a maximum speed of 78mph.

The Short Type 74 first joined the RNAS in early 1914. A fixed-wing two-seater, it was powered by a 100hp Gnome giving a maximum speed of 65mph and had a wingspan of 57ft. A gathering of seaplane station commanders in July 1914 rated the Type 74 'the most reliable machine in the Service'.

The Short Type 135, the third type involved in the raid, also featured a folding wing. The type had been ordered by the Admiralty in September 1913, but Short Brothers had built only two examples; both took part in the raid. The first, No. 135, had been delivered just before the start of the war. It had a 135hp Salmson (Canton-Unné) radial engine while the second, No. 136, delivered in September 1914, had a more powerful 200hp Salmson. The overall higher-powered Type 135s showed improved performance compared to the Folder and the type had the shortest wingspan of the three types used, at 54ft 6in.

Overall, the appearance of the three types was similar: all were two-seaters and besides the two main floats on which they rested, all had two auxiliary underwing floats and a single float under the tail. To aid identification the underside of the lower wings were to feature a large painted red ring and a Union flag. Other than the three Hales bombs the seaplanes were unarmed, although each pilot did carry 'a revolver and six packets of ammunition'.

The pilots selected for the mission were:

Pilot	Seaplane Type	Parent Ship
Flt-Cdr Robert P. Ross	Folder No. 119	HMS *Engadine*
Flt-Lt Arnold J. Miley	Folder No. 120	HMS *Engadine*
Flt-Cdr A. B. Gaskell	Folder No. 122	HMS *Engadine*
Flt-Cdr Francis E. T. Hewlett	Type 135 No. 135	HMS *Riviera*
Flt-Cdr Cecil F. Kilner	Type 135 No. 136	HMS *Riviera*
Flt-Lt Charles H. K. Edmonds	Type 74 No. 811	HMS *Riviera*
Flt-Lt Reginald J. Bone	Type 74 No. 812	HMS *Empress*
Flt Sub-Lt Vivian Gaskell Blackburn	Type 74 No. 814	HMS *Empress*
Flt-Cdr Douglas A. Oliver	Type 74 No. 815	HMS *Empress*

Although all the aircraft were two-seaters, the choice of taking an observer remained with the pilots. Thus, all three pilots on HMS *Empress* took observers on the Cuxhaven raid, while none of the HMS *Engadine* trio did. On HMS *Riviera* only one pilot, Flt-Cdr Kilner, carried an observer – a man who had already played an extremely important role in planning the raid. This was Lt Robert Erskine Childers RNVR.

Erskine Childers was born in 1870 to an English father and an Irish mother. As an adult he indulged his adventurous spirit, manifested by his passion for sailing; his favourite area was the north German coast and the Frisian Islands, with their narrow channels and shifting sands. After service in the Boer War with the City Imperial Volunteers, in 1903 he published a best-selling novel,

The Riddle of the Sands. It told the story of a fictional German invasion of Britain from the Frisian Islands. Erskine Childers had been a patriotic supporter of the British Empire, but later became an advocate of Irish home rule. In July 1914 he smuggled 900 rifles from Germany to Dublin to arm the Republican Irish Volunteers. However, on the outbreak of war he volunteered for service with the British forces, believing that the defeat of Germany would be beneficial for smaller nations such as a future independent Ireland. The Admiralty welcomed Childers – gazetting him as a lieutenant in the Royal Naval Volunteer Reserve – believing that his unique knowledge of the chain of islands off the German coast that sheltered much of the German High Seas Fleet would represent an invaluable asset to the navy. Attached to HMS *Engadine*, Childers began teaching naval pilots the secrets of navigating this complex coastline.

The force assembles

After an anxious wait of some days, the weather for 25 December started to look promising. Then, on 23 December, the order arrived. Plan Y was under way.

Commodore Keyes' slow-moving submarine flotilla was first away. It comprised six E-Class and three D-Class vessels and one S-Class vessel. The first pair left Harwich at 9pm; the final pair departed six hours later. With all submarines away, Keyes followed with two destroyers attached to the flotilla – his flagship, HMS *Lurcher*, and HMS *Firedrake*. They aimed to take up a position north of Norderney, one of the Frisian Islands. This placed Keyes in the area selected as the rendezvous point for the returning seaplanes and in a position to warn of any German naval approach from the River Ems.

Tyrwhitt's squadron steamed out of Harwich at 5am on 24 December, the three carriers escorted and protected by the cruisers HMS *Arethusa* and HMS *Undaunted*, with six L- Class and two M-Class destroyers of the Third Flotilla. If all went according to plan the carriers would be in position north of Heligoland and about 50 miles north-west of Cuxhaven by 6am on 25 December – the position selected from which to launch the raid.

The final element of Tyrwhitt's force, the cruiser HMS *Fearless* and eight I-Class destroyers of the First Flotilla, left Harwich at about 10am on 24 December; their role was to support Tyrwhitt should German ships attack while the seaplanes were being picked up.

Far off to the north, the vast array of the Grand Fleet began moving south from Scottish waters on the evening of 24 December, proceeding to a rendezvous in the middle of the North Sea. From there Admiral Jellicoe hoped to engage the German High Seas Fleet should it emerge from its safe haven to attack Tyrwhitt's command. Jellicoe's force numbered more than 100 ships, but in the event it would play no part in the coming action.

Through the daylight hours of 24 December Tyrwhitt and Keyes proceeded to their appointed positions unopposed. Unknown to them, during the day the two Zeppelins based at Nordholz, *L.5* and *L.6*, were patrolling over Heligoland Bight. However, gathering heavy clouds reduced visibility and led to the airships' recall. With four destroyers leading, followed by the cruiser *Arethusa*, Tyrwhitt's force continued unnoticed deep into Heligoland Bight.

23 DECEMBER 1914

9pm Submarine flotilla departs Harwich

Tyrwhitt's command kept on schedule. At 4am on 25 December it changed course and formation so it was ready to move straight into action as soon as it arrived at the launch position. Behind *Arethusa* the three carriers were now in an arrow formation, with *Engadine* in the lead, *Riviera* trailing 400yd to starboard and *Empress* 400yd to *Riviera*'s port side. Four destroyers formed up on either side of the carriers at a distance of about 1,200yd, constantly patrolling to deal with any submarine attack. *Undaunted* dropped back to provide defensive cover should an attack develop from the north.

24 DECEMBER 1914

5am Tyrwhitt's squadron leaves Harwich

At about 4.30am Tyrwhitt sighted four trawlers. Almost immediately 'a short-wave length message was intercepted, evidently very close'. Tyrwhitt remained convinced that the transmission originated from one of the trawlers, but German sources state that a U-boat made the first sighting of Tyrwhitt's force some time later than this. Within 30 minutes Tyrwhitt recorded 17 radio messages that he believed were transmitted from the isolated German seaplane station on Heligoland. Commodore Keyes, on HMS *Lurcher*, also picked up the transmissions and concluded: 'At an early hour in the morning it was evident from the agitated state of the German wireless that the presence of the squadron had been discovered.' It seems that for a moment Tyrwhitt considered abandoning the mission but then dismissed that option and pressed ahead. Subsequently, it appears that whatever this radio traffic signified at that early hour, it was not reporting the discovery of British ships. Tyrwhitt arrived at the launch position at about 6am, where he could thankfully record: 'weather conditions were perfect for flying, light airs from the eastward, sea calm and great visibility, but it was bitterly cold'. Keyes' submarines were also all in position – except *S-1*, which had suffered damage and had to return – watching all the approaches to the squadron's position.

The intended position for launching the airstrike was about 12 miles north-east of Heligoland; however, *Arethusa* gave the signal to stop about six miles further north. As *Empress* and *Riviera* closed on *Engadine*, Malone, commanding the carriers, ordered by megaphone: 'Hoist out seaplanes.' It took about 20 minutes for each ship to unload its aircraft. Only once the aircraft were afloat could the mechanics begin the process of opening and locking the wings on the Folders and Type 135s, and starting the engines. The success of the whole mission hung in the balance at this most vulnerable time.

While final checks were under way, Zeppelin *L.6*, commanded by *Oberleutnant zur See* Treusch von Buttlar-Brandenfels, was emerging from the revolving shed at Nordholz.

It was about to undertake a routine patrol over the North Sea. *L.6* and its companion at Nordholz, *L.5*, were identical airships of the M-class – the same as *L.7*, which had narrowly escaped destruction in the Friedrichshafen raid a month earlier, and as *Z.IX*, destroyed at Düsseldorf. *L.6* ascended at 6.31am and headed north.

25 DECEMBER 1914

6.59am Seaplanes start take-off

Seaplanes away

At 6.54am everything appeared ready and Malone gave the five-minute-warning signal. According to the plan, on a second signal five minutes later the slower Type 74s would take off; five minutes after that a third signal

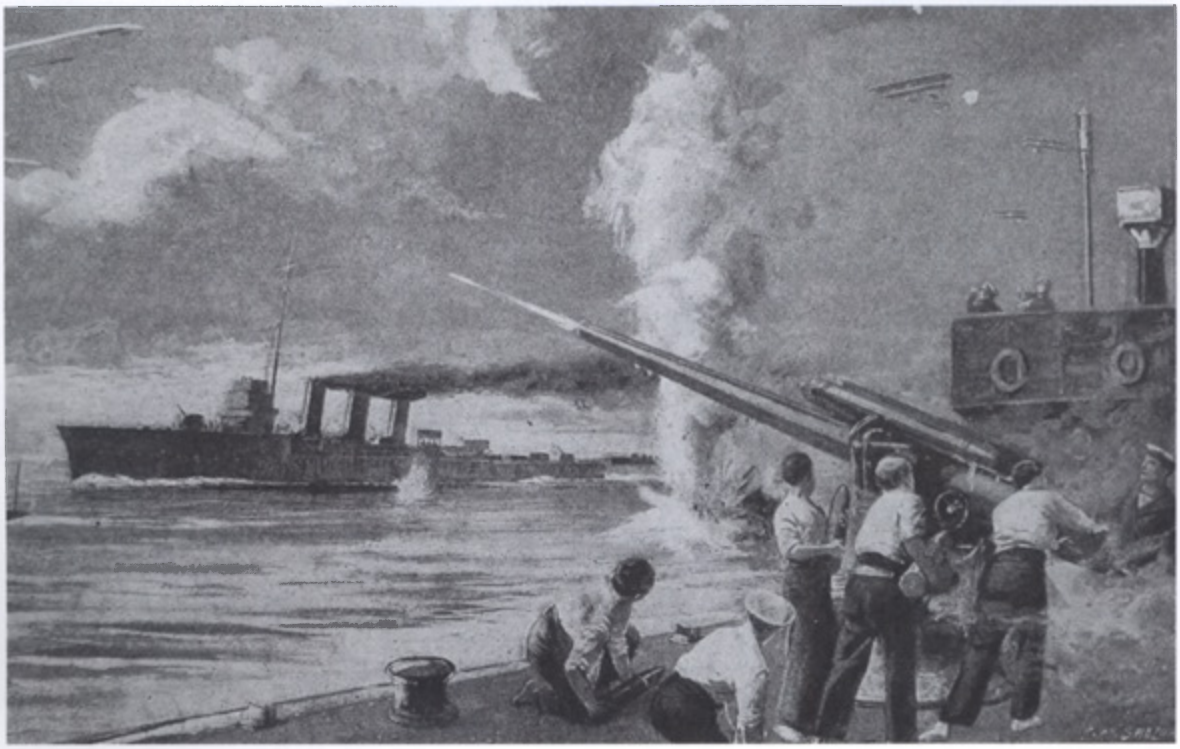
would release the Folders and Type 135s. A fourth signal 15 minutes later meant that any seaplane still on the surface was to return to its parent ship immediately. No extension of surface time was possible.

At 6.59am Malone gave the signal for the Type 74s to start take-off, but they struggled to get away. He therefore left ten minutes before giving the signal for the departure of the Folders and Type 135s. This extra time allowed seven of the nine aircraft to get airborne, but as they gradually disappeared from view, smoke appeared on the horizon in the direction of Heligoland – suggesting German activity. Malone raised the recall signal at 7.22am and the two aircraft unable to get airborne returned to their carriers – Folder No. 122 taxied back to *Engadine* while *Empress* hoisted Type 74 No. 812 aboard. At 7.28am, with both aircraft recovered, Tyrwhitt prepared to follow a sweeping course towards the pick-up area, initially steering westwards before turning south-west then south.

Once airborne the seaplanes made no attempt to fly in formation; all made their way to the target area as best they could. They followed a course well to the east of Heligoland; all reported seeing a Zeppelin some 14 or 15 miles away.

Back at Nordholz messages had finally arrived advising of a British presence in the Heligoland Bight. As a result Zeppelin *L.5*, commanded by *Oberleutnant zur See* Klaus Hirsch, became airborne at 7.49am and headed westwards. A number of German seaplanes also took to the air from Heligoland and other bases, seeking more detailed intelligence.

In fact German intelligence had anticipated some form of attack on ports and islands in the Heligoland Bight. It seems that spies had been at work in



The guns of HMS *Undaunted* open fire on Zeppelin *L.6*, at the start of a cat-and-mouse sequence between the Zeppelin and Tyrwhitt's squadron.

Harwich, since information received on 24 December indicated that this attack was imminent. German naval defence measures included patrols by trawlers manned by naval crews and by U-boats and destroyers, as well as cruisers guarding the main river mouths. Now, on the afternoon of 24 December, fresh orders despatched two more U-boats into the Bight, while a number of destroyers in harbour were ordered to stand by to sail at 90 minutes' notice; other warships were made ready on three hours' notice.

The Zeppelin seen by the British seaplanes was Von Buttlar's *L.6*. Tyrwhitt's force also spotted it, at about 7.35am, as the force was getting under way again after launching the seaplanes. The airship was estimated to be ten miles away. Then, at about 7.55am, as the squadron was sailing westwards, a German seaplane appeared, approaching from Heligoland. The seaplane, believed to be a Friedrichshafen FF.19 (No. 80), turned back to the island to report sighting the British ships (it carried no radio). Von Buttlar received a message, flashed by searchlight from Heligoland, advising of the presence of enemy ships to the north-east. Even having had this warning he found himself quite surprised when the ships came into view. His war experience had so far been negligible. Later, remembering the moment when one of his officers reported 'Sir! Looks like enemy ships,' he wrote:

> Nothing, of course, could have come as a greater surprise to us. For in this war the last thing we ever expected to do was actually catch sight of the enemy. After all, was it not expected to be over in two months' time? To think that I, of all people, should have had this luck!

Von Buttlar quickly prepared a message to be sent to SMS *Seydlitz*, the flagship of Scouting Group I, based in the River Jade. However, just as the wireless officer prepared to send the message the power failed, preventing transmissions for the rest of the day. Fortunately another seaplane appeared; a Morse message was flashed to the pilot using *L.6*'s searchlight, and the aircraft returned to Heligoland.

Having succeeded in passing on details of the position of the British ships, *L.6* began to pursue them. Von Buttlar was keen to maintain contact so he could direct any ships of the High Seas Fleet that responded. In observing the British ships, his attention was drawn to 'three vessels steaming along in line abreast' – never having seen a seaplane carrier before he assumed they were minelayers.

Meanwhile, two German seaplanes had closed on the British ships at a height of about 4,000ft. HMS *Empress*, struggling to maintain speed, had begun to trail behind the rest of the force. Homing in on the increasingly isolated ship, the first of the seaplanes, a Friedrichshafen FF.19 (No.26), came down to about 2,000ft before launching its attack across the starboard bow. Lt Frederick Bowhill, commander of *Empress*, recorded in his report:

> The aviator dropped three pairs of bombs (six in all), but made very bad shooting, the bombs dropping from 200 to 300 yards away on our starboard bow; smoke black and yellowish; size of bombs about 10lbs each.

Bowhill had issued rifles to the crew so as to defend the ship, but instructed them to fire only in volleys, except for a few picked shots who maintained independent fire. He also constantly altered course to put off the seaplanes' aim.

Moments after the first seaplane passed over, a second, believed to be Friedrichshafen FF.29 (No. 202), attacked from the port bow. Flying at about 1,800ft, this aircraft dropped two larger bombs. Bowhill reported:

> This attack was nearly successful, one bomb dropping 20 feet away on port beam and shaking the ship severely, and the other 40 feet off the starboard beam.

Having exhausted their supply of bombs, the seaplanes turned away. However, the attack was not over.

The Zeppelin attack

Zeppelin *L.6* was flying at about 3,600ft when the ships came into view. In his memoirs, the commander of *L.6* wrote: 'We began to feel aggressive and wished to drop a few bombs on the heads of the Jack Tars below.' HMS *Empress* was still trailing behind the squadron when Von Buttlar closed on her. On reconnaissance patrols *L.6* had only limited means with which to engage the enemy; on this day it had only three 50kg bombs. On these early Zeppelins the technology for aiming and dropping bombs was primitive: the whole process was conducted by eye and twine holding the bombs was cut by hand when over the target.

As *L.6* closed on *Empress*, Von Buttlar noticed the accompanying cruisers and destroyers turning to intercept him. However, he pressed on. *L.6* approached from starboard until directly over *Empress* – Bowhill considered that the Zeppelin descended to 2,000ft while Von Buttlar estimated he was still at 3,600ft. Bowhill continued to steer a zigzag course as *L.6* released its first bomb. As the bomb fell towards the target the officers of *L.6*

> leant over the side of the ship as far as we could to see what happened, but were disappointed to find that the bomb struck the water at a point at least a hundred yards short of the ship.

Bowhill, on the receiving end, recorded that this first bomb 'struck the water about 50 yards off the port quarter'.

Then from a range of about 11,000ft the cruisers *Arethusa* and *Undaunted* opened fire on *L.6* with their 6in guns, at maximum elevation. A few seconds later Von Buttlar observed that 'the smoke of two small shrapnel-bursts hung forlornly in the air not so very far below our ship'. The shell bursts drew a pragmatic response from the Zeppelin commander.

> There was not much sense in showing courage, seeing that the enemy had guns and we ourselves had none. It was therefore high time to bolt, for our gigantic airship... presented an alarmingly large target to the enemy.

A dramatic reconstruction of the first encounter between British warships and German Zeppelins. *L.6*, carrying just three bombs, engaged Harwich Force but only attacked the seaplane carrier HMS *Empress*, which had been struggling to keep up with the rest of the squadron.

L.6 turned away and quickly outdistanced the British squadron, but as the two cruisers circled away again, *L.6* returned to the attack. The airship descended to 2,000ft as it ponderously manoeuvred. Bowhill watched *L.6* carefully then, when it was overhead, took evasive action.

> I then went hard over. I could see her rudders put over to follow me, and directly her head started to turn I put my helm over the other way. I continually repeated this manoeuvre...and I think it put her off her aim; otherwise I fail to see how she could have missed us.

Bowhill's tactics seemed to work because Von Buttlar wrote that his second bomb 'fell about 80 yards in front of the ship's bows'. Bowhill reported it

landed 50yd astern. *Arethusa* and *Undaunted* also returned to the attack. Their shells burst 'a good distance off', prompting a moment of complacency from Von Buttlar, but then his opinion changed.

> The next salvo, however, came so near that one of the little clouds of smoke, blown slowly asunder by the breeze, left a thin streak hanging just in front of our forward engine car. That was disquieting, to say the least.

Spotting a huge bank of cloud, Von Buttlar steered into it and took refuge. Now safely concealed, *L.6* began to climb again, Von Buttlar having decided the Zeppelin really made too good a target at lower altitude. At 3,600ft he began to steer southwards, and as he emerged from the cloud he spotted *Empress* again, 'struggling along, evidently still suffering from engine trouble'. The third and final bomb was cut loose but again missed the weaving target, Von Buttlar recording that it fell '20 to 30 yards in front of the steamer'; Bowhill reported that this bomb fell 100yd astern. He added that only one bomb exploded. Von Buttlar noted, with amusement, the futile efforts of men aboard *Empress* firing at *L.6* with rifles. But, as shrapnel bursts again spotted the sky, he steered back to the safety of the cloudbank to consider his next move.

Again he descended, but this time, at 2,000ft, *L.6* remained deep in cloud. Von Buttlar continued to descend and eventually emerged from cover at low altitude. Once more he engaged *Empress*, this time with the airship's three machine guns. Each fired a complete belt of ammunition at the deck of *Empress*, with Von Buttlar claiming that 'in less than a second it was completely deserted'. Bowhill's alternative view was that 'the shooting was indifferent'. *L.6* then sheered off to take up a position off *Empress*'s port quarter, where *Undaunted* 'burst several shells fairly close'; this eventually allowed *Empress* to engage *L.6* with its own pair of stern-mounted 12pdr guns. Bowhill fired eight rounds, and thought 'one went very close, as [*L.6*] sheered right off and did not worry me again'. This was confirmed by Von Buttlar, who wrote that 'we made haste to vanish once more into the mists'. Interestingly, another account by Von Buttlar states that he aimed only one bomb at *Empress*; the others he dropped as ballast to allow him to rise more rapidly.

L.6 now turned for home, via the River Jade. However, as the airship proceeded it became heavier and started to respond sluggishly to the controls. A quick check of the gas cells revealed no significant problems but *L.6* struggled all the way back to Nordholz, with any unessential items having to be jettisoned in order to remain airborne. Von Buttlar and his crew were puzzled as there was no obvious cause. A check after landing revealed just a few tiny holes; one source quotes three, another nine holes in the gas cells made by bullets, but not enough to cause the problem. The following morning an inspection showed that although *L.6*'s gas cells had been refilled since landing, they had lost 15% of their hydrogen overnight. A more thorough investigation followed and finally Von Buttlar found the cause.

> Then we discovered that we had received well over 600 direct hits. They were rifle shots fired by men on board [*Empress*]. And we had cracked our sides with laughter at them and their rifles!

The search for the Zeppelin shed

Tyrwhitt's force now proceeded unmolested. At about 9.30am the formation turned south, the eight destroyers spread out in line abreast leading with *Arethusa* in the centre. The three carriers followed 300yd behind with *Undaunted* bringing up the rear. All kept a close watch for the returning seaplanes. Tyrwhitt soon sighted HMS *Fearless* and its eight destroyers, in position to support his force if needed; then he received a message from Commodore Keyes aboard the destroyer HMS *Lurcher*. About ten miles north of the Norderney Gat, *Lurcher* had picked up the first of the returning seaplanes, Folder No. 119, piloted by Flt-Cdr Robert Ross. *Lurcher* took No. 119 in tow and slowly proceeded north to join with *Engadine*. With the safe recovery of Ross came the first news of how the raid had gone.

Ross had approached the mainland at about 7.40am, having observed a second Zeppelin (*L.5*) to the south steering westwards, and was concerned to see 'thick banks of fog ahead'.

Out to sea the sky was clear but inland it was a completely different story. This was to have a serious impact on the raid. Ross observed a number of merchant ships in the mouth of the Elbe, then saw two destroyers about three miles away steaming north-west. Ross was flying at about 2,000ft when

Kilner and Childers in Short Type 135 No. 136 failed to find the Zeppelin shed, so turned for the rendezvous. Their report states: 'On entering Schillig Roads we turned west until we reached the middle of the fairway and came under fire from several of the ships anchored in this part of the roads.' Their seaplane suffered minor damage.

one of the destroyers fired at him, but the shot passed below him. Ten minutes later he altered course to the east, believing he should now be on the line of the Zeppelin shed. Fog blotted out everything, reducing visibility to about 100yd. Still hopeful of stumbling across the shed, Ross descended from 500ft to 150 ft 'and cruised about over sand dunes and sands, but did not see any buildings or railway'. Then Ross began to experience problems with the supply of petrol from the gravity tank. He quickly calculated that he might have only 15 minutes' fuel left. At 8.10am he set course for Wangeroog, the most easterly of the East Frisian Islands; if he was forced to land he could do so on the sea. At 8.20am he passed Wangeroog, then ten minutes later Ross thought he saw a submarine diving. He released a bomb, aiming ahead of where the submarine had disappeared, but reported that it failed to explode. With his fuel problems persisting, Ross bravely landed in a bid to investigate. However, as he touched down a German trawler appeared, heading for him at full speed. Using the fog to his advantage he taxied and 'ran away from her and escaped into the haze'. Alone again, he managed to coax enough life into the engine to take off once more and reach the designated pick-up area, where *Lurcher* spied him shortly after 9am.

The next two seaplanes to return were *Riviera*'s Type 135, No. 136 with Flt-Cdr Cecil Kilner and Lt Erskine Childers on board, and Type 74, No. 811, flown by Fl-Lt Charles Edmonds.

Kilner and Childers, flying at 3,000ft, also saw the two destroyers that had fired on Ross, and observed Zeppelin *L.5* in the distance heading west. The airmen considered making an attack, but once they had climbed to 4,500ft they abandoned the idea, the Zeppelin's 'rate of climbing being superior to ours'. At 8.12am Kilner brought No. 136 down to 2,500ft over the mouth of the Weser and observed Zeppelin *L.6* far off to the north. Two minutes later he turned towards land and set a course towards the village of Cappel, but as they came down to 1,000ft the clouds closed in; as they crossed the coastline they immediately encountered 'a thick ground fog drifting in masses'. Occasional gaps allowed fleeting glimpses of houses and roads. Now forced down to a height of 200ft to 300ft, they estimated visibility at half a mile. Childers' literary background comes through in the report. Patrol reports were normally short and to the point, but he paints a more vivid picture, adding that 'the fields were under a hoar frost and the atmosphere was dull and dark'.

Kilner and Childers were concerned to note that their engine had begun to misfire; this they put down to either 'the extreme moisture of the atmosphere or to over lubrication'. The trouble persisted intermittently throughout the flight.

Once inland they located a village which they believed was Cappel. However, despite circling the area for a few minutes they could not locate the Zeppelin shed. They made a wide sweep to the south but still found nothing. Concerns about the engine now convinced Kilner and Childers to abandon their search and make their way back to sea, which they reached at about 8.35am. Back over water the atmospheric conditions improved and Kilner managed to force No. 136 up to 1,500ft as they flew over Schillig Roads – a major naval anchorage at the mouth of the River Jade. Now, acting in accordance with their

secondary objective, Childers diligently recorded the ships anchored below and their positions while Kilner tried to avoid the enemy fire arcing up towards them. Childers noted

> Seven battleships of the 'Deutschland' and 'Braunschweig' classes.
> Three battle cruisers, apparently 'Seydlitz', 'Molkte', and 'Von der Tann'.
> One four-funnelled cruiser, probably the 'Roon'.
> Two old light cruisers of the 'Frauenlob' and 'Bremen' classes.
> Ten destroyers.
> One large two-funnelled merchantman or liner painted grey, and three ships which appeared to be colliers.

Several of the ships opened an accurate fire on No. 136 as it passed over. As detailed as ever, Kilner and Childers' report related admiringly that

> The weapons used against us were anti-aircraft guns firing a bursting shell of a shrapnel type. The fusing was excellent, bursts occurring frequently just at our level, and in some cases the direction was very nearly accurate. Two drift wires were severed and a chassis strut damaged.

Kilner, keen not to remain a target any longer than necessary, did not attempt to drop any bombs on the ships. Meanwhile, Childers continued to add to his list of observations, noting ships near the mouth of the Weser, including two cruisers and a number of merchantmen, and two destroyers. As they flew over Wangeroog No. 136 searched for a submarine base thought to be located there and on which they had hoped to drop their bombs, but they found nothing. Navigating westwards along the chain of East Frisian Islands so familiar to Childers, Kilner reached Norderney, then turned north-west to search for the squadron. At 9.53am they passed *Lurcher*, with No. 119 in tow and *Firedrake* in attendance, and shortly after that they sighted the squadron. At about 10.15am they landed safely alongside *Riviera*. Five minutes later Fl-Lt Edmonds in Type 74 No. 811 splashed down. The ship's hoist had both aircraft back on board within ten minutes.

Edmonds' experience had been similar to that of his comrades. He recorded that as soon as he crossed inland he encountered a thick mist that forced him down to 250ft. He quickly found the railway line from Cuxhaven to Bremerhaven, which the pilots believed ran close to the airship shed, and he turned to follow the line southwards for seven miles. However, with no sign of the shed he turned eastwards, continued on that course for about five miles and then flew north for ten miles. Still the shed could not be found. Edmonds considered his options and concluded that even if he did now find the sheds, 'the bombs when dropped from the altitude at which I was forced to fly would probably not explode', and with time getting on he set a course for the rendezvous.

As Edmonds crossed back over the coastline the air cleared and he saw two light cruisers anchored in the Weser below. They were *Stralsund* and *Graudenz*. The time was about 8.30am as he climbed to 1,000ft and prepared to attack

Stralsund; he began a gentle dive down to 800ft as both ships 'opened fire with rifles, maxims, and anti-aircraft guns'. Later he discovered six holes in No. 811 – five made by bullets and one by shrapnel. Despite the fury in the air, Edmonds released his bombs. However, all fell wide of the target.

Followed by defensive fire, Edmonds initially turned to the south, intending briefly to fly a reconnaissance over Wilhelmshaven; however, he quickly realized that time was against him and changed course for Wangeroog. As he flew over Schillig Roads he noted the types of ship anchored there and those coming and going at the mouth of the Jade, while also observing Zeppelin *L.5* on a north-westerly course. Approaching the pick-up area, Edmonds spotted *Lurcher* and *Firedrake* and then, shortly after, found the security of *Riviera*. Those on board now scanned the sky for their third seaplane, Flt-Cdr Hewlett's Type 135, No. 135 – but the clock was ticking. Tyrwhitt's orders allowed a three-hour limit from the seaplanes' take-off to recovery before the squadron had to head home. And not only Hewlett was missing; there was also no news of Miley in No. 120, Oliver and Budds in No. 815 and Gaskell Blackburn and Bell in No. 814. However, unknown to the waiting ships, the crews of three of the four missing aircraft were safe – having been recovered in dramatic circumstances.

Submarine rescue

Flt-Lt Arnold Miley, flying Folder No. 120 from *Engadine*, shared most of the experiences of the other pilots en route to the target. At 8.10am he turned inland and immediately encountered the

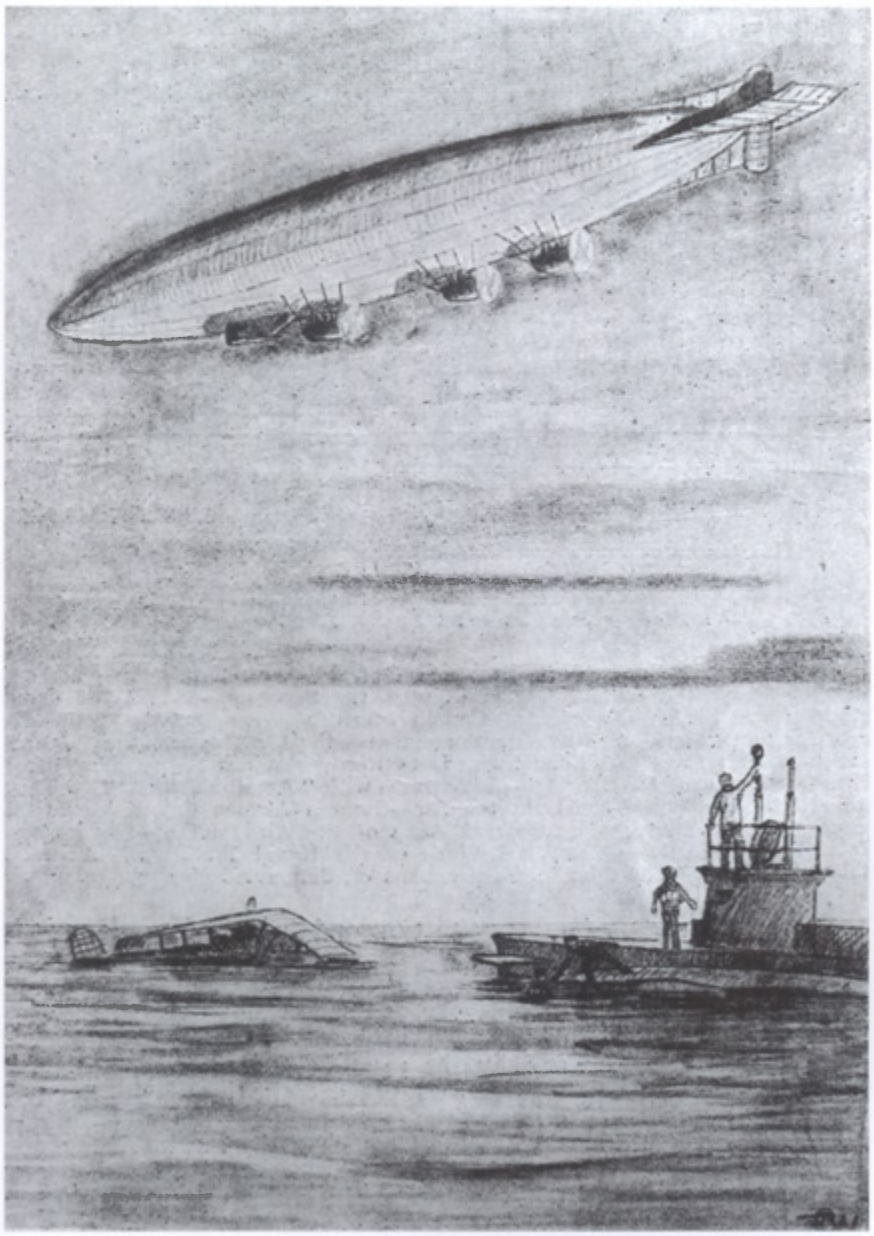
> low-lying mist, which blocked out everything except what was lying immediately under the machine. I crossed over the railway several times, and passed over two villages, many ploughed fields and isolated farms.

Although Miley covered a lot of ground, as with the others he could not find the airship base. And having also found 'no fortified places worth attacking', Miley crossed the coast again at 8.35am, with anti-aircraft fire sending him on his way. He ran the gauntlet of German naval fire all the way to Wangeroog, which he reached at about 9.05am. From there he steered west at about 1,200ft, and ten minutes later saw Zeppelin *L.5* heading west at about 4,000ft. Miley's fuel situation was now becoming critical. At 9.35am he estimated he had only fuel for another five or ten minutes' flying, but despite the good visibility at sea he could not locate the naval squadron. Then his keen eyes spotted a submarine periscope below; moments later its conning tower appeared. The red and white band around the tower confirmed that the vessel was British. Lt-Cdr M. E. Nasmith, captain of submarine *E.11*, had given the order to surface having observed the seaplane through his periscope from a position off Norderney at about 9.30am. Nasmith took Miley on board, having informed him that the squadron was beyond his range. At 9.50am, having secured No. 120, the submarine set course for the carrier rendezvous. Moments later the two missing Type 74s, Nos. 814 and 815, appeared in the sky over the submarine.

Flt-Cdr Douglas Oliver and his observer, Chief Petty Officer Budds, flying No. 815, had also failed to find the Zeppelin shed. Caught in thick cloud at 2,000ft as they neared the mouth of the Elbe, they descended to 700ft where they emerged

> on top of five destroyers steaming in line abreast slowly up the Elbe River. Destroyers challenged with searchlight, and after a short pause all opened fire.

Oliver veered away and climbed, but at 7.50am he descended again. As he emerged from cloud at 700ft a gun on Neuwerk Island opened fire, causing



Submarine *E.11* rescuing the crew of seaplane No. 814. The sketch, by an officer who was present, shows the damaged aircraft sinking as the crew are hauled aboard. Nasmith, the captain of *E.11*, is waving his cap at Zeppelin *L.5* in an attempt to convince the airship's crew that the submarine is German.

L5
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PREVIOUS PAGES:
The Cuxhaven Raid – 25 December 1914. Flight Commander E.T. Hewlett, flying a Type 135 seaplane, had a memorable Christmas Day. At about 7.40am Hewlett spied a German battleship or armoured cruiser, which opened fire on him. Shortly after he had narrow escape, almost 'fouling the masts of three or four large cruisers'. Having failed to locate the Zeppelin shed he set course for the rendezvous, but once free of the mist he found himself 'clear of land with nothing in sight'. Then, at about 8.40am he reported that 'a Zeppelin airship came out of a cloud quite close to me... She opened fire with rifle or small gun, but the machine was not hit'. As he could not out climb her he turned away and was soon out of range. But Hewlett's day did not improve. With his engine over-heating he landed alongside a Dutch trawler, abandoned his aircraft and returned to Holland with the crew.

minor damage to his tailplane. Again, Oliver veered away from the danger, heading south until he and Budds estimated they were on the line of the Zeppelin shed; then they turned eastwards. Coming inland at 8.40am they located the railway, but having searched up and down they could not find the shed. Flying out over the Weser and the Jade, Oliver and Budds became the latest target for the German fleet, but they escaped without further damage. By 9.45am they were clear of the naval guns and passed Wangeroog, similarly searching for but not finding the reported submarine base. Continuing westward, they dropped their three 20lb bombs on a row of red-painted sheds on Langeoog Island, which they decided could be a seaplane base. The second bomb hit and destroyed one of the sheds, although records show there were no military establishments on the island. At Norderney, as Oliver and Budds turned north, they sighted Zeppelin *L.5*. The RNAS aircraft had no means of attack, yet Oliver inexplicably steered towards *L.5*. However, the enemy 'climbed rapidly, at an almost vertical angle', so Oliver turned away again and scanned the horizon for a sign of *Empress* and the squadron.

Empress's other seaplane, Type 74 No. 814, had Flt Sub-Lt Vivian Gaskell Blackburn at the controls, with Chief Petty Officer James Bell as observer. Having evaded the fire of a number of destroyers and trawlers on the approach, Gaskell Blackburn found navigation difficult when he encountered the lowering cloud. He admits in his report that he did not know at which point he crossed the coastline, but he quickly found the railway and flew beyond it for six miles, encountering enemy fire that he felt was 'not a very fierce bombardment'. The pair searched for the Zeppelin shed but eventually gave up and flew south-west, crossing the Weser and Jade through hot anti-aircraft fire from the ships below. Gaskell Blackburn was generally impressed with the fire:

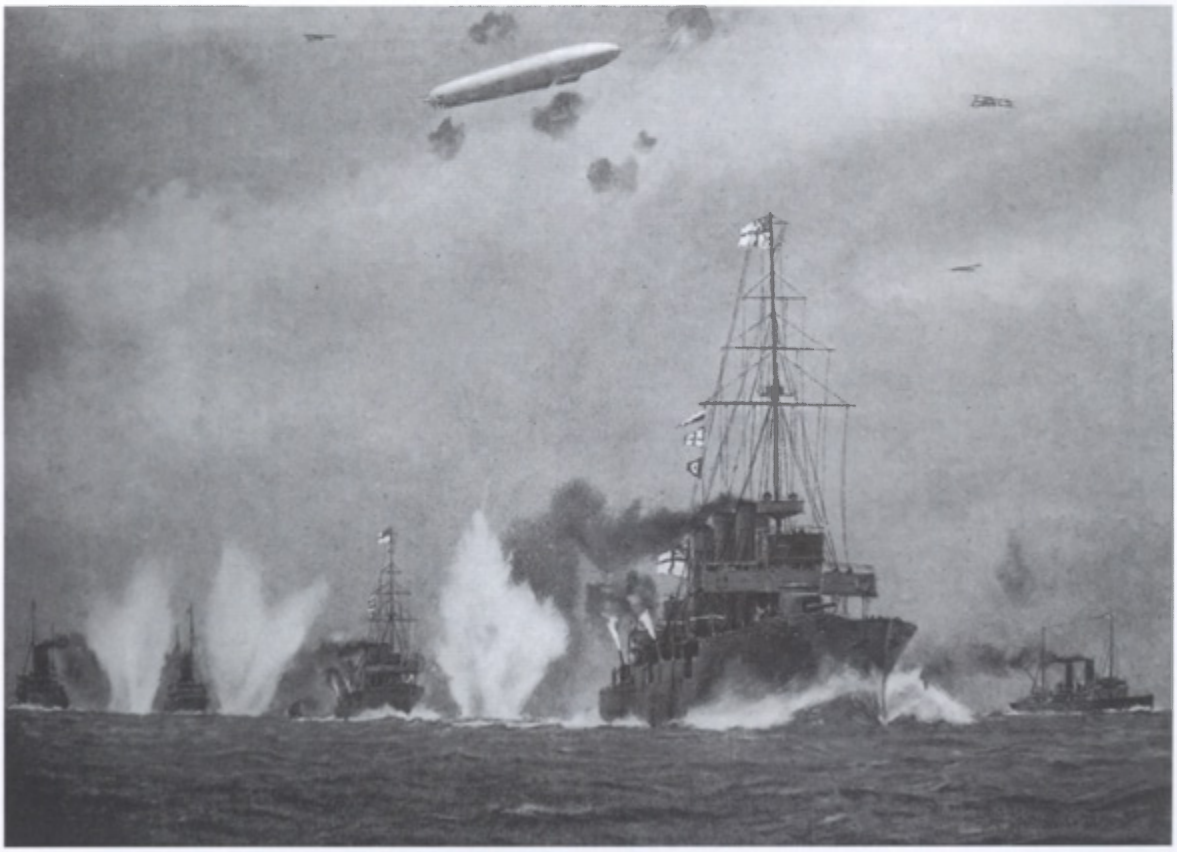
> Their timing was remarkably good and tracer shells were employed to give direction but they appeared to have difficulty in obtaining the speed of the machine.

Fire from a land-based battery on the outskirts of Wilhelmshaven proved more accurate: 'one of the shells struck a float, passed through it and carried away the fitting of the starboard chassis strut'. Gaskell Blackburn and Bell dropped two of their bombs in retaliation, which Bell thought did some damage. They reported dropping their last bomb over the town, then took a north-westerly course, cutting across country through low cloud until they reached the coast again by the island of Baltrum. They never climbed above 700ft. Upon reaching Norderney No. 814 headed north, and 20 minutes later sighted *E.11* towing No. 120. The pair also observed another seaplane, No. 815, in the air and a Zeppelin (*L.5*) some distance off. Gaskell Blackburn continued on his northerly course for another 15 minutes, but, finding no sign of Tyrwhitt's squadron, he turned back again to E.11 – he found the submarine easily enough, but as he did so he could not fail to notice how close the Zeppelin now was.

After his brief encounter with the Zeppelin earlier, Flt-Cdr Oliver's fuel was almost exhausted. He gave up any idea of locating *Empress* and decided to land No. 815 close to *E.11* and abandon his aircraft. Nasmith saw the seaplane land and steered towards it. As soon as Oliver explained his

predicament, Nasmith took him aboard, but as he did so No. 814 also landed close by. It was a tense moment, for all the time Zeppelin *L.5* was closing in. Nasmith had No. 120 cut adrift, but as he waited for No. 814 to taxi over to him the landing chassis, damaged by gunfire near Wilhelmshaven, collapsed. As the holed float filled with water the aircraft turned up with its tail in the air. Using a loudhailer, Nasmith told Gaskell Blackburn and Bell to swim to the submarine, while Oliver opened fire on his own aircraft with his pistol – trying to sink it and prevent it falling into enemy hands. Then the already tense situation became dramatically worse: a submarine – presumed hostile – appeared, heading directly towards them at full speed, then dived when just over a mile off. The Zeppelin now passed directly overhead, further adding to the tension, but did not drop any bombs. Gaskell Blackburn reported that Nasmith waved his cap at the Zeppelin, hoping to convince its crew that the submarine was friendly. The ruse did not work because *L.5* returned. Seconds after hauling the last man aboard, Nasmith ordered the boat to dive and to turn towards the spot where the other submarine had submerged; his hope was to present the smallest possible target should *E.11* be attacked. The crew waited anxiously as the submarine descended to 40ft; then, two bombs belatedly dropped by *L.5* exploded just above them. However, *E.11* escaped damage and settled on the seabed to allow any further danger to pass. Eventually the submarine set course for

While Tyrwhitt searched for the returning seaplanes, he came under attack from above and below. He reported: 'A second Zeppelin [*L.5*] and several hostile seaplanes now approached from the southward; all dropped bombs without success... Several hostile submarines were seen, and both "Arethusa" and "Fearless" were attacked without success.'



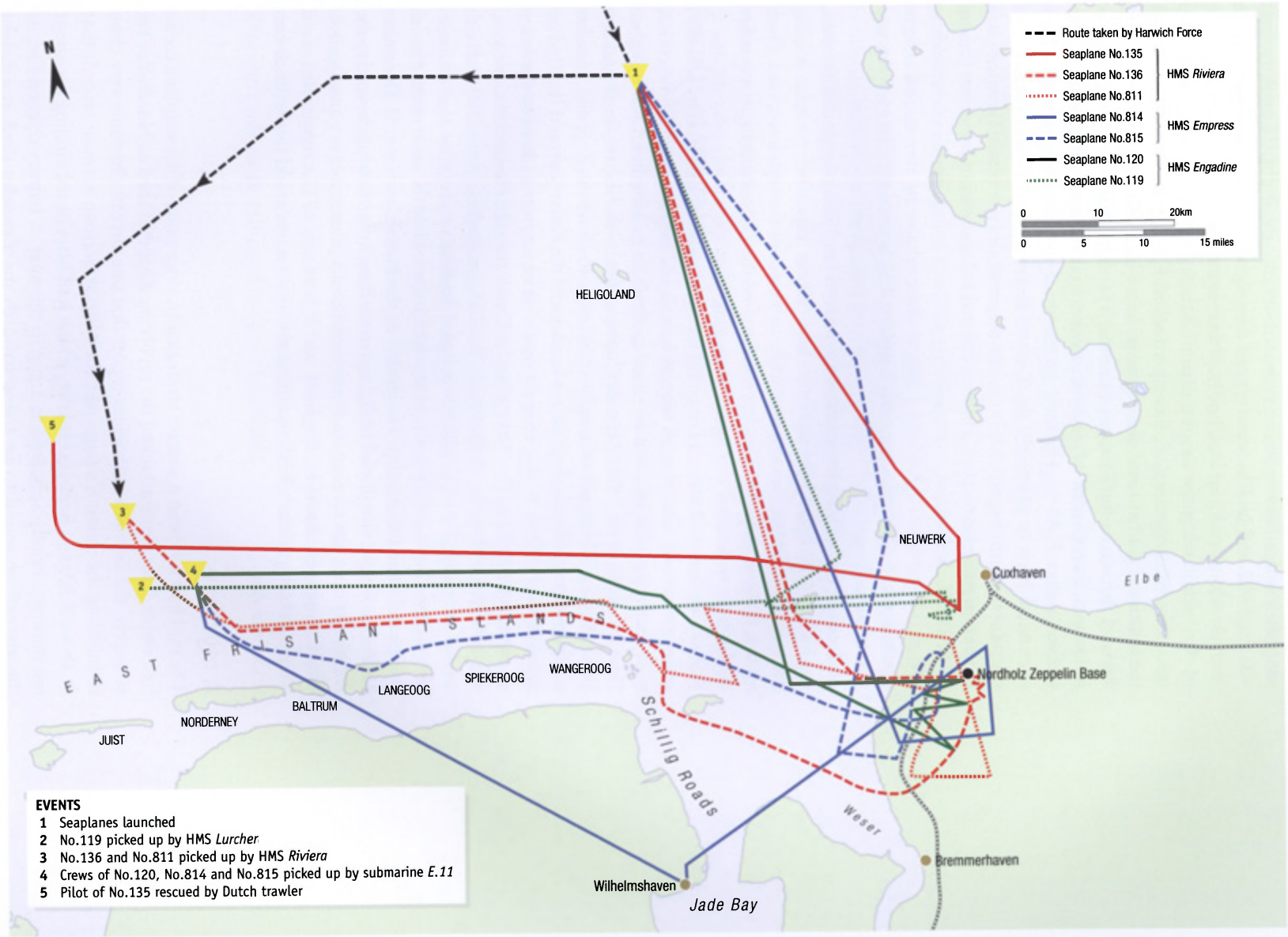
Opposite: The Cuxhaven raid.

Harwich with five extra passengers on board. It appears that the crew of *E.11* invited their guests to share Christmas dinner with them on the seabed.

The submarine that had approached was in fact British – it was *D.6*, captained by Lt-Cdr Robert C Halahan. Halahan had observed *E.11* with the seaplanes and had turned to offer assistance, but dived when *L.5* flew towards him. A few minutes after the second bomb exploded, *D.6* noticed an apparently undamaged seaplane bobbing on the surface and came up beside it with the intention of rescuing the pilot. Just as *D.6* surfaced Zeppelin *L.5* was lurking 100yd away, at a height of only 50ft. Hirsch, the airship commander, immediately gave the order to open fire with machine guns, and *D.6* and the seaplane were sprayed with bullets. Halahan remained on the surface just long enough to ascertain that there was no one aboard the abandoned aircraft before seeking safety below the waves.

Tyrwhitt's force had continued to search diligently for the returning aircraft, but eventually his ships became targets for the handful of German

Flt-Cdr Francis E. T. Hewlett. Hewlett qualified as a pilot in November 1911, at his mother Hilda's flying school at Brooklands. Hilda Hewlett had become the first British woman awarded a pilot's licence that August. A regular and keen flier, Flt-Cdr Hewlett transferred from HMS *Hermes* to the naval air station on the Isle of Grain in December 1913.


N
Route taken by Harwich Force
Seaplane No.135
Seaplane No.136
Seaplane No.811
HMS Riviera
Seaplane No.814
Seaplane No.815
HMS Empress
Seaplane No.120
Seaplane No.119
HMS Engadine
0 10 20km
0 5 10 15 miles
HELIGOLAND
NEUWERK
Cuxhaven
Elbe
EAST FRISIAN ISLANDS
LANGEOOG
SPIEKEROOG
WANGEROOG
BALTRUM
NORDERNEY
JUIST
Nordholz Zeppelin Base
Schilling Roads
Weser
Bremmerhaven
Wilhelmshaven
Jade Bay
EVENTS
1 Seaplanes launched
2 No.119 picked up by HMS Lurcher
3 No.136 and No.811 picked up by HMS Riviera
4 Crews of No.120, No.814 and No.815 picked up by submarine E.11
5 Pilot of No.135 rescued by Dutch trawler

seaplanes and submarines that ventured out into the Bight. The submarines – U-20, U-22 and U-30 – were reported by Tyrwhitt as attempting to attack both *Arethusa* and *Fearless*, but 'without success; high speed and rapid use of the helm having the desired effect'. Attacks by the seaplanes were also unsuccessful. Zeppelin *L.5*, having attacked *E.11*, now continued towards the waiting squadron and attempted to harry it. At about 11.45am, having delayed departure for 75 more minutes, Tyrwhitt finally decided there was no longer any chance of recovering the four missing aircraft – he was unaware that *E.11* had picked up three of the crews – so ordered his command back to Harwich. At 2.30pm Keyes aboard *Lurcher* learned of the pilots' rescue from *E.11*; however, the news did not reach Tyrwhitt until Keyes had returned to port. There still remained no news of one pilot, forcing Lt E. D. M. Robertson, commanding *Riviera*, to advise his commanding officer: 'It is with the deepest regret that I have to report that Flight Commander F. E. T. Hewlett with Seaplane 135 is missing.' But Hewlett was also alive and well.

Hewlett had similar experiences to those of his colleagues during the raid, but with one extra, particularly hair-raising moment: 'nearly fouling the masts of three or four cruisers' as he came down through low cloud. Once inland, like everyone else, Hewlett failed to find the Zeppelin shed, or any other landmarks, so headed out again. Emerging from the clouds over the sea at 8.20am, he searched around but could see no islands or other land by which to orientate himself. Ten minutes later, as he scanned the horizon in all directions, a Zeppelin (L.5) loomed out of cloud quite close to him, but 1,500ft higher. Hewlett recalled that the Zeppelin 'opened fire with rifle or small gun but [No. 135] was not hit'. Realizing he could not out-climb the Zeppelin, Hewlett turned away and headed for where he thought the carriers should be – but he was lost. At 9.25am, having seen no sign of land for over an hour and nursing an overheated engine, Hewlett spotted a Dutch trawler. He landed close to it. With no oil to spare, the skipper took No. 135 in tow. As darkness fell and with no sign of rescue, Hewlett reluctantly holed the floats and cut his aircraft loose. He remained lost to the world for the next six days while the crew of the trawler completed their fishing trip. He landed in the Netherlands on 31 December 1914. The British vice-consul, delighted to see him, immediately got word to the Admiralty that its missing and presumed dead pilot was very much alive. Hewlett arrived back in England on 3 January 1915, repatriated as a 'shipwrecked mariner'. With receipt of this news a line could finally be drawn under the raid.

A mystery

The raid had not been a success strategically, since none of the seaplane crews had sighted, let alone attacked the revolving Zeppelin shed at Nordholz. Yet strangely, the German authorities report that one aircraft did come very close to fulfilling the mission's purpose. The official German account records that at about 8.30am a British seaplane, which had been heard circling for about ten minutes, briefly appeared in a gap in the mist. A battery opened fire, as the aircraft appeared to be flying towards the Zeppelin shed at a height

estimated at a little below 1,000ft. Ground troops also opened fire, as everyone feared the worst; then the aircraft veered away, heading in the direction of the hydrogen storage tank nearby. The report claims the aircraft then dropped two bombs that fell in a wood near the tank before disappearing into the fog. There is no evidence to suggest which British pilot this might have been. Certainly no pilot was aware that he had been so close to success. Analysis of the pilots' reports suggests that, realistically, it could only have been Ross or Miley, on the basis that the other pilots accounted for all their bombs in their reports and no aircraft dropped any during that portion of the raid. Miley does not mention dropping any of his three bombs and Ross mentions releasing just one at a submarine, on his return journey, leaving two bombs unaccounted for. Perhaps Ross, who was suffering engine problems when looking for the Zeppelin shed, released two bombs so as to lighten his aircraft when concerns over his fuel supply emerged. It is not possible to substantiate this as Ross does not specifically mention releasing bombs as ballast – a recognized practice. Perhaps he did not consider this action to be important. However, the Admiralty map of the raid shows Ross to have been further to the north. And although Miley does appear to have flown over the area in question, there is nothing in his report to suggest he offloaded any bombs. We will never be sure.

Results of the raid

While the raid was not a strategic success, the British took great heart from the exploit – the first carrier-borne airstrike in history. The reconnaissance reports – and particularly the report by Kilner and Childers – were of great interest. The British also took satisfaction from the fact that a small naval force had operated within 50 miles of the enemy coast without any interference from the German High Seas Fleet. Although by about 10am the German authorities had fairly accurate intelligence about the composition of the British force, the high command chose not to act. Elements of the German fleet were in a position to engage but they remained in port – even though they were in no danger from the British Grand Fleet, which had assembled too far north to engage if German ships had moved out. The reluctance of the German fleet to emerge into Heligoland Bight in the face of this daring and aggressive action by the Royal Navy was to set the tone for much of the war in the North Sea. However, the main purpose of the raid had been a continuation of Churchill's policy of stifling the threat of Zeppelin raids on Britain, and in this it had failed.

CONCLUSION

In 1914, starting with the first attempt in September, the RNAS launched six raids against Zeppelin sheds: two on Cologne, two on Düsseldorf, one on Friedrichshafen, and one on Nordholz. These attacks, carried out with great courage and daring on the part of the aircrew involved, paved the way for the future development of strategic bombing. Amongst the groundbreaking techniques employed were low-level attacks, dive-bombing and carrier-borne assaults. The raids did result in the destruction of one Zeppelin but otherwise had little or no long-term effect on denying the Germans use of the sheds. Much of this is due to the limited ability of early aircraft to carry bombs of substantial enough weight or sufficient number to inflict significant damage. Rather than restricting Zeppelin attacks on England, the raids actually provided the impetus for such attacks to start.

Although the possibility of Zeppelin raids awakened fear when war broke out in August 1914, in reality the threat to Great Britain was extremely limited. Neither the German Army nor Navy had enough Zeppelins capable of effectively carrying the war to British soil. Moreover, although improved airships did become available and some senior naval officers vociferously promoted the benefit to the war effort of attacking England from the air, the Kaiser, Wilhelm II, blocked them. Wilhelm was a grandson of the late Queen Victoria and a cousin to the then British monarch, George V. He opposed threatening Great Britain directly, and in particular London, the home of the Royal Family and the location of so many important historic buildings and other monuments.

A plan to attack London, proposed in late August 1914 by the deputy chief of the Naval Staff, was rejected because the navy had only two airships capable of attacking London, and these were needed as scouts for the High Seas Fleet. Another plan, put forward early in October 1914 by *Konteradmiral* Otto Philipp, Chief of Naval Aviation, to Admiral Hugo von Pohl, the chief of the Naval Staff, allocated a single Zeppelin a raiding role. However, again this came to nothing. Later that month plans for joint navy and army airship attacks on England failed to develop. Further plans for

THE WILLIES' AEROPLANE DESTROYS A BRITISH CABBAGE: CARTOON

The Daily Mirror

CERTIFIED CIRCULATION LARGER THAN ANY OTHER DAILY NEWSPAPER IN THE WORLD

TUESDAY, DECEMBER 29, 1914 One Halfpenny.

THE SEVEN AIRMEN OF CUXHAVEN: THE MEN WHO BOMBARDED GERMANY FROM THE SKIES.

The front page of the *Daily Mirror* newspaper on 29 December 1914 showed photographs of 'The seven airmen of Cuxhaven'. They are, from top left anti-clockwise: Edmonds, Kilner, Oliver, Hewlett, Blackburn, Miley and Ross.

co-operation between the army and navy foundered in December when army Zeppelins commenced retaliatory strikes against French towns following attacks by French aircraft. Thwarted by the army's decision, the navy sought permission to go ahead without support, but concerns over the Kaiser's reaction if bombs fell in the wrong areas led to the cancellation of this attack on 26 December – the day after the Cuxhaven raid. With clear attempts by the British to destroy Zeppelins on the ground, Philipp's frustrations boiled over. In a letter to Von Pohl he voiced his concerns over the future of the navy's airships.

> If the Army uses airships in France indefinitely, and the Navy is forced to wait for a plan of common operations, the great fighting capacity of the Navy ships will remain completely unused for a long time. They will be destroyed without results by enemy plane attacks.

Under increasing pressure, Von Pohl sought an audience with the Kaiser. He emerged with qualified approval for the navy to commence an aerial bombing campaign against Great Britain. Initially the Kaiser insisted on excluding London, but later he approved it as a legitimate target. Sixteen days after the Cuxhaven raid, on 10 January 1915, *Korvettenkapitän* Peter Strasser, commander of the Naval Airship Division, submitted plans for the first Zeppelin raid on Great Britain. Six days later bombs were dropped by two Zeppelins as they attacked random targets in East Anglia. However, despite the initial fears of the British population, and the obvious shock and trauma experienced by those who suffered in the aerial attacks that followed, the Zeppelin raids were never able to unleash the feared and anticipated level of death and destruction. For that, the country owed its thanks to the RFC, RNAS and other organizations committed to home defence. Thanks were also due to another powerful force, which prevented many attacks from ever reaching their targets: the British weather.

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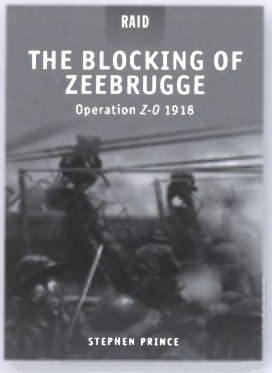

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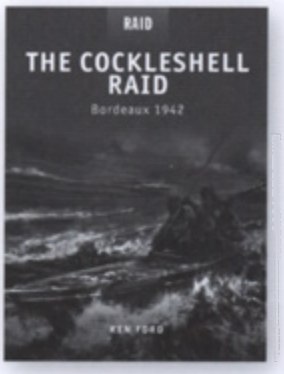

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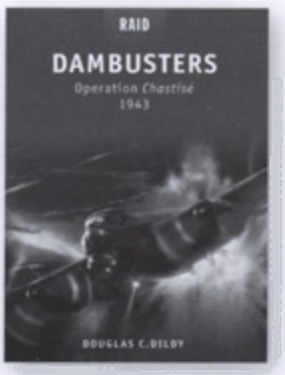

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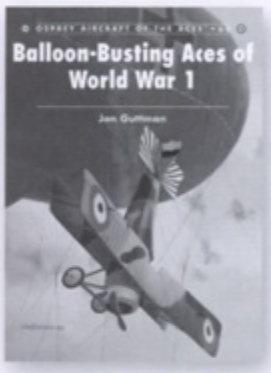

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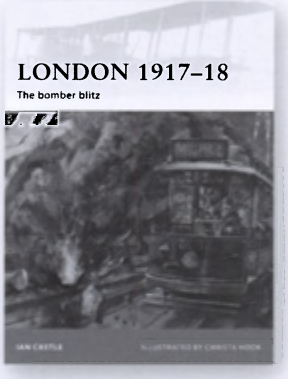

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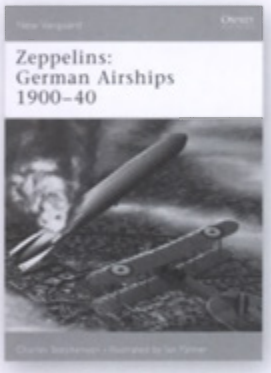

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THE ZEPPELIN BASE RAIDS

Germany 1914

In the summer of 1914, as Europe teetered on the brink of war, the spectre of immediate Zeppelin raids on London and other major British towns and cities loomed large. When Winston Churchill accepted responsibility for the defence of London, he realized that Zeppelins were most vulnerable when on the ground. Despite limited resources, he believed that attack was the best form of defence. In the final four months of 1914, the Royal Naval Air Service launched four separate air attacks on Zeppelin bases in Germany: Düsseldorf/Cologne twice, Friedrichshafen and Cuxhaven. Author Ian Castle presents the full story of Britain's first strategic bombing campaign and the results it achieved.

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